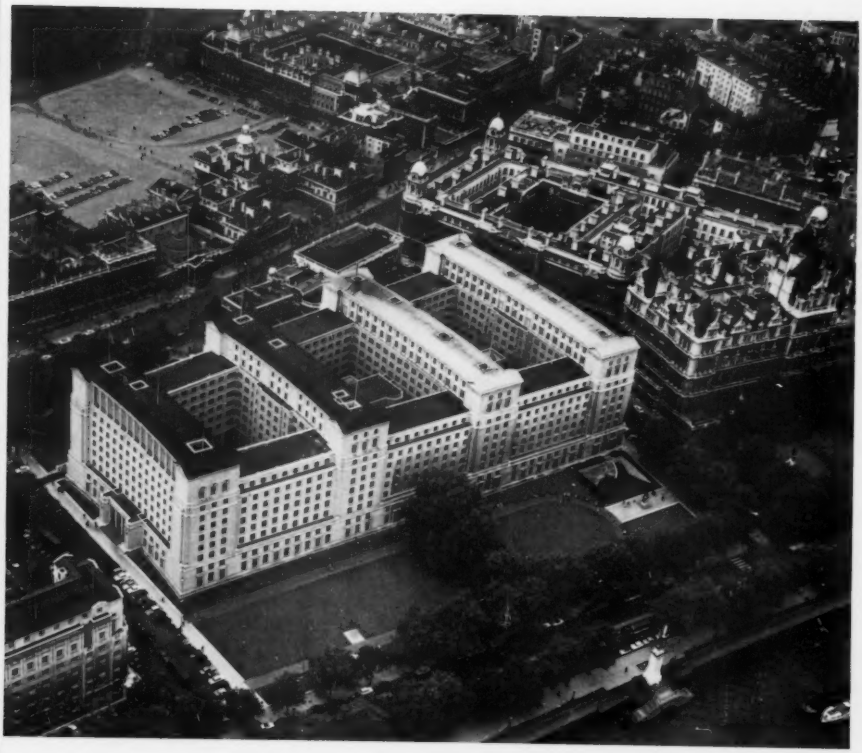
Management in Government



August 1982 Volume 37 Number 3

Management in Government

incorporating

Management Services in Government

Produced by the Management and Personnel Office in collaboration with Her Majesty's Treasury and other departments and published quarterly by Her Majesty's Stationery Office.

Editorial Board:
N E A Moore *(Chairman – Civil Service College, Management and Personnel Office)*
J E Pestell *(HM Treasury)*
Mrs M B Sloman *(Management and Personnel Office)*
A W Russell *(Management and Personnel Office)*
H Jarmany *(Management and Personnel Office)*
R Gapp *(Editor – Management and Personnel Office)*

Views expressed in this journal are essentially those of the contributors and do not necessarily reflect official policy.

©Crown copyright 1982
First published 1982

ISBN 0 11 726745 7
ISSN 0263-4678

Front Cover: Main MOD Building, London SW1

Management in Government
August 1982 Volume 37 Number 3

Contents

Page

138 Management Audit in the Ministry of Defence
J F Mayne

147 The Language and Design of Effective Forms
T L Lonsdale and I F Goddard

154 Public Service Management – An Elusive Concept?
P D Jones

163 Appraising the Worth of Office Technology Systems
R N Burton

177 The Fisherman's Honest Broker
I A Brown

182 Improvements in Staff Suggestions Schemes
R Gapp

188 Information and the Challenge of Information Technology
B T Campbell

196 Furnishing Economies – Bridging the Gap between Concept and Implementation
E B Grieve

202 Civil Service College Courses and Seminars

203 New Publications on the Civil Service

Management Audit in the Ministry of Defence

J F Mayne

John Mayne was appointed Director General of Management Audit in the Ministry of Defence in 1981. He joined the Air Ministry in 1956 after reading PPE at Worcester College Oxford, and has served in a variety of MOD posts, including that of Private Secretary to the Secretary of State. He was seconded to the Treasury in 1964, to the Cabinet Office and the Central Policy Review Staff in 1970 and to the Northern Ireland Office in 1979. He is a Fellow of the British Institute of Management.

Scrutiny of inspection and audit

The Ministry of Defence (MOD) have been pioneering a new approach to inspection and audit and developing management audit. In 1980, the Department carried out a 'Rayner' scrutiny to:

> 'review all the organisations which are responsible for some form of management or systems audit within the Ministry of Defence and to recommend where improvements can be made.'

These organisations included the five Inspectorates of Establishments employing some 339 staff (including those on manpower control and vote management) covering Navy, Army, Air Force, Procurement Executive and Centre; the three Internal Audit Directorates with 253 staff covering headquarters, industrial establishments and Services units; and the Central Management Services Division (Man S(Org)) with 48 staff giving a total

©Crown Copyright 1982
Management in Government 1982 (3) 138–146

of 640. A further 345 staff were engaged in various O&M and work study assignments for line management and some 90 in MOD headquarters in one or other kind of audit activity (eg office machinery, security or registry inspections). These were not covered by the scrutiny.

The parish of the inspection and audit organisation was, and remains, huge. With a workforce then of some 350,000 servicemen and women, and 270,000 civilians (divided more or less equally between industrials and non-industrials) the MOD total is three times the size of the largest private employer in the country and is far larger than that of any other government department. The accounts requiring internal audit amounted to £12¼ billion all of which the Ministry itself spends and controls, including some £5¼ billion on equipment development and procurement and £5 billion on manpower. In this respect the MOD differs from most other government departments which are advisory rather than executive; its systems of management and financial control have to be correspondingly comprehensive.

Such a large and complex organisation cannot be controlled wholly from the centre. The Department is divided into four main management areas, one for each of the three Services and one for the Procurement Executive (set up in 1971 after the Ministry, unified in 1964, absorbed the Ministry of Aviation Supply). The management philosophy of the Department is to delegate power and authority to these management areas and thereafter, as far as possible, down the line; and to maintain the necessary minimum of such strong central controls – of policy, money and manpower – to ensure that the Department functions in a concerted way. This is a continuing process in which we are trying to move progressively away from detailed regulation towards broader controls which leave the man or woman on the spot to judge what specific action is called for within his or her terms of reference and delegated power and authority.

The organisation is changing, not least in manpower numbers. Since 1964, the number of servicemen has fallen by 24 per cent and civilians by 42 per cent (including locally entered civilians). The pace of reductions has quickened recently. Civil Service numbers are being cut by 14 per cent from 1 April 1979 to 1 April 1984. The MOD's share of these reductions is some 48,000 UK based staff, or over 19 per cent. In addition, the defence programme changes set out in Cmnd. 8288 include a reduction of 20,000 in the number of servicemen. With these reductions go major organisational changes. The headquarters itself has been reduced by 20 per cent since 1974 when the Department's management review set a target for cuts in headquarters' numbers which has been subsequently intensified.

Against this background the scrutiny recommended, and ministers accepted, that the Department's inspection and audit organisation should

be changed in the following ways:

- We should place greater reliance for manpower control on manpower ceilings rather than by matching numbers and grades to tasks through staff inspection. Staff inspection should continue in its turn to be more selective, auditing line managers' performance and helping them to live within their allocated manpower ceilings.
- Line managers should be given more authority for manpower management within their manpower ceilings and, increasingly, through staff budgets.
- There should be even more emphasis on the internal audit of systems rather than routine checks; audit should be more selective and directed to where risks and expenditure are greatest.
- The three separate functions of manpower control and audit (through the Inspectorates of Establishments and staff inspection), internal audit and Central Management Services should be brought together under a Director General of Management Audit (DGMA) with a professionally qualified deputy.
- The effort of the different arms of inspection and audit should be more closely co-ordinated and their commonality exploited to the full.
- The quality and training of inspection and audit staffs should be improved.
- Inspection and audit staffs should as a consequence of these changes be reduced in number.

Action plan

A detailed action plan was prepared in the light of the scrutiny, setting out how the recommendations should be put into effect. Work is in hand to implement the changes, though it is bound to take some time to put them all fully into practice since some are by their nature longer-term developments.

Manpower control and audit

To cope with the pressure to reduce civilian numbers, the MOD developed a priority manning system whereby the total of allowable civilian manpower is allocated initially to each of the Service Boards and the Procurement Executive Management Board, the controlling bodies of the management areas. Each of these totals is then progessively disaggregated down the line management chain, with staff co-ordinators (at Under Secretary level) playing a key role. Decisions on priorities in the allocation of manpower are taken at each level of line management by the people who know best where they wish to allocate the resources given to them and to cope with changing requirements as they occur. At the same time

we are developing staff budgets as well as travel and subsistence budgets to promote economy in the use of staff–related expenditure as well as numbers. These budgets will be monitored and subject to management audit. Studies are in hand on the feasibility of deriving these budgets from data produced by the Department's pay computers.

This system is not, of course, perfect and the staff inspectorates have an important role to play as objective advisers, helping line management to sort out its priorities and, with their professional knowledge and experience, to match the available manpower to tasks and *vice versa*. Within these overall objectives they will be expected to:

- inspect work which is actually being done within the manpower ceiling;
- encourage line managers to question the tasks they have set themselves or been set by senior managers;
- persuade line management at the appropriate level to abandon or reduce effort on lower priority tasks;
- advise line management of ways in which central tasks can be carried out with fewer staff or more economically; and
- check grading standards and organisation.

These objectives are difficult to achieve and place new demands on the staff inspectorates in terms of quality though not of quantity of work.

If manpower control is to be effectively delegated down the line, line management must have some scope for exercising a choice over the grades of their staff. This entails delegating greater complementing powers to them. A study is in train on the extent to which this can be done. A start has been made in the Meteorological Office.

If top managers are to rely more on junior managers taking decisions about the grades appropriate to their area, they need comprehensive grading guidance. This is being developed and disseminated throughout the Department. Apart from the grading guidance already produced for key grades by the Treasury with the assistance of other departments, the staff inspectorates have in hand work on those grades unique to the MOD using job descriptions and job evaluation techniques. In addition, they are exchanging staff and putting together teams from more than one inspectorate where, for example, they have to examine grades unfamiliar to the inspectorate but routine to another. The concept of a 'lead' division for one particular grade has operated informally for some time (eg for scientists) but is now being more widely used.

If selective inspection is to be effective, it must be carefully targeted onto those areas most in need of scrutiny. This calls for more information to be available to the inspectorates to guide them in their work programme.

Measures of efficiency are not always easy or, indeed, possible to devise. However, in some areas indicators can and are being drawn up. About £4½ billion of MOD expenditure is covered by management accounts – dockyards, repair organisations, hospitals, storage depots, service training units, R&D establishments and so on – and at least in these areas, if not in the front line and headquarters, management information can be produced and useful performance indicators sought which, if used with care, can provide leads, in addition to inspectors' and auditors' 'noses', as to where limited inspection and audit resources can best be selectively deployed.

A great many other developments are in train in the staff inspection field, for example:

- The inspectorates have revised and standardised their inspection questionnaire to establish more clearly than hitherto the contribution of each person to the work of the organisation. It has already been tried out with some success although it will be reviewed after a year.
- The recommendations of inspectors will in future be more promptly implemented than in the past. The presumption is that implementation will take place within two months. If recommendations are challenged, the issue will be resolved within the same timescale where practicable.
- The possibility of combining registry and security inspections with staff inspections is being considered.

Internal audit

The MOD pioneered the introduction of systems audit in the public sector in 1970 and as a result was able to reduce the number of its internal auditors from 664 to 253 by 1980. Even so, there has been too much recurrent internal audit of accounts of low materiality and risk. Internal audit needs to be selective and more sophisticated if, with fewer resources, it is to match the MOD's complex systems of management and financial control and give the Accounting Officers the assurances they need that these systems are healthy and being efficiently operated. So we are changing the emphasis of internal audit, moving as far as possible away from pre-determined audit 'cycles'. Each year's audit programme will be carefully planned to consist of a representative sample or cross-section of the Department's systems, activities, accounts and locations weighted for materiality and risk. Audit of systems which cross management areas and span divisions of responsibility within the internal audit organisation will be an integral part of this audit approach.

This will call for a necessary minimum of recurrent audit, leaving about 30 per cent or more of audit effort to be devoted to special audit projects and management audits. The special audit projects (using internal auditors only) will provide internal audit with more opportunity to take time to dig more deeply where a recurrent audit has shown that some aspect is not functioning effectively and/or economically. As elsewhere, the easy problems are solved in a normal day's work; the knottier ones take more time and effort to solve them. Management audits (where internal auditors will be joined by other staff with relevant expertise both from within and outside the management audit organisation) will be used where a wide range of expertise is needed to crack a problem.

We are also drawing together and adding to our computer audit experts by creating a centralised computer audit section under a Principal reporting direct to me. The section has already started to form, and its staff are undergoing training courses. It will be responsible for specialised computer audit tasks (ie computer developments and audit of installations). The substantial task of auditing computerised systems (ie application audit) will remain in the hands of the Directors of Internal Audit; the role of the central section will be to help by participating or providing guidance and training as appropriate. One of the first initiatives of the new computer audit section has been to introduce a video-assisted ADP training course for non-specialist auditors.

Management services

We have been improving our central management services work for some time; the keynote for the future is 'more of the same and if possible better'. We continue to provide a service on request to line managers; an increasing proportion of our effort (currently nearly all) is in response to directives from ministers or senior management, including Rayner studies. The complexity and scale of this work – most cover staffs numbered in three or four figures – has meant that Principals have had to be increasingly involved in field-work and that assignment officers have had to be of higher grade and quality than before. Almost all are now SEOs with a wide range of previous management and administrative experience, including computers, procurement, and logistics. We are also involving staff with relevant skills from other divisions in our teams and contributing assignment officers to investigations being led from other parts of my organisation.

We are devoting more effort to implementation. The Permanent Secretary issued a directive to Deputy Secretaries two years ago placing on them the personal responsibility for following up reports and seeing that they are dealt with speedily and effectively. Certainly, it is our judgement that implementation rates have improved, though how far this is

attributable to the present atmosphere of economy or to the directive is an open question.

A small computerised office facility, shared with the Defence Administrative Computers Division, will shortly go 'live' and we hope will give us invaluable 'hands on' experience of the value of such devices for administrative tasks and the problems we shall have to solve in applying them more widely.

Level of staff and training

The new approach to inspection and audit makes considerable demands on staff and there will inevitably be a period of adjustment before the organisation is fully attuned to the changes. Top management is laying great emphasis on the improvements we are making and Inspection and Audit is therefore getting its fair share of high quality staff. To be effective, inspection and audit staff do not have to be polymaths or egg-heads (though a few can be useful), but they need in good measure qualities of analysis, imagination, professionalism, self-confidence, toughness and persuasiveness if they are to succeed in the difficult task of discovering faults in the Department's systems which line managers themselves either are not aware of or cannot themselves solve; analysing causes; proposing practical solutions; and persuading line management that such solutions must be implemented even if they appear at first sight (and sometimes at second sight) to be unpalatable.

Good training is important if we are to have effective inspection and audit staff, not least because the job of looking over a manager's shoulder and telling him how to improve the way he does business calls for knowledge at both the theoretical and practical levels. We already have staff with wide experience of management in all its aspects and professional staff, including accountants, whose discipline is one of those which contribute in particular to internal audit. And nearly all inspection and audit staff have undergone some form of training. But we are intensifying this training (both in-house and through the Treasury and Civil Service College) and encouraging staff to undertake recognised professional qualifications at various levels so as to have a yardstick by which to judge the effectiveness of our training and education programmes. For example, a large number of internal audit staff are being entered for courses leading to the Institute of Internal Auditors' Diploma and discussions are in progress with the Civil Service College to provide tuition. We are also planning our own training course for internal audit and making use of other management courses to increase the understanding of internal auditors of the management systems that they are auditing. A series of short seminars on specific subjects of current interest to all DGMA staff are planned.

Management audit

There is also a need for a much wider range of audit of the use of all resources which we are calling management audit. The need for this sort of approach arises from the diversity and complexity of the MOD; the fact that its management problems arise in areas as diverse as front-line fighting units of all three Services; large research and development establishments operating at the limits of technology; dockyards re-fitting modern fighting ships, including nuclear submarines; workshops repairing anything from a rifle to a nuclear warhead; supply units capable of launching and equipping at minimum notice the sort of armada that left for the South Atlantic last April; and headquarter units concerned with such diverse activities as military operations, planning and intelligence, financial control, equipment procurement and manpower management. Inspection and Audit needs to be very sophisticated to be useful in tackling the tougher management problems encountered in such areas.

The concept of management audit is a new one involving two different (but not mutually exclusive) approaches:

(1) a selective and detailed examination of a particular area looking at all aspects of management, systems of control, complementing and use of resources; and

(2) across-the-board studies of a particular function performed in more than one area so as to draw conclusions about the relative efficiency of doing similar things in different ways.

Issues selected for review are audited by teams chosen on their merits and including, where appropriate, servicemen and women as well as civilians drawn according to the nature of the study from relevant disciplines from inside DGMA's organisation and outside it. A programme of management audits is being drawn up and will be monitored by a Management Audit Board under the chairmanship of the Permanent Secretary.

The management audit programme has begun, necessarily, tentatively, with two studies:

Administrative computers—staff inspectors, internal auditors and management services staff are examining our arrangements for controlling administrative computers through the Defence Administrative Computers Division, the Common Services and the Service departments.

Relations with industry—an across-the-board review of relations with industry, taking as its starting point a study of the roles of some 3,000 MOD civilian and service personnel resident with industry and the ROFs or carrying out similar duties elsewhere.

The results of these two audits will be examined with particular care to draw lessons for the future. Management audits will become an increasingly significant part of our programme.

We are, as will be clear, as yet in the early days of our new approach; however, it has already shown marked signs of broadening the horizons of our organisation connected with inspection and control in all its forms. We are confident it will result in clear gains for the MOD in terms of getting the best value from the enormous amount of taxpayers' money invested with us.

The Language and Design of Effective Forms

T L Lonsdale and I F Goddard

Tim Lonsdale (on the right) is a Senior Executive Officer and Ian Goddard (left) a Higher Executive Officer in the Management and Efficiency Group of the Management and Personnel Office. Both were members of the central team which co-ordinated the Review of Administrative Forms and reported on the arrangements for controlling forms service-wide.

The May 1982 issue of Management in Government reported on the service-wide review of administrative forms in government. It outlined government plans for better forms in the future.* This article gives simple guidelines which will help to get better forms.

Evidence from the review shows that government forms are often not understood. Even staff in departments have trouble understanding some forms and their procedures. The main reasons for this are that officials:

- believe, quite wrongly, that people can and will make an effort to understand all that is written on a form;
- over-estimate the reading ability of the population.

Estimates published recently by the National Consumer Council suggest that in Britain one adult in 20 has a reading age less than nine and 25 per cent of our adult population fails to reach a reading age of 13 as measured by UNESCO literacy standards.‡ Our findings are that most people have

*_Administrative Forms in Government_, Cmnd. 8504 HMSO £2.30.
‡_'Gobbledegook'_, National Consumer Council, 1980, £1.00.

©Crown Copyright 1982
Management in Government 1982 (3) 147–153

little interest in forms and do not regard them as helpful. If they can read what is written they still may not understand it. The law and our rules can both be very complex but many forms show little attempt to make matters easier for the public. Many forms contain far too much wordy detail sometimes copied from legislation. This, together with poor and unimaginative designs, does most to make bad forms. It is not coincidental that error rates of 30 per cent or more in completing forms were found during the review.

What can be done to make better forms?

It is said that 'It is a simple task to make things complex, but a complex task to make them simple'. This is very true about getting good forms. However, there are some simple guidelines for language and design. Using these sensibly will help people read forms easily and understand them clearly. But it will continue to be impossible to assess objectively the effectiveness of forms until this is tested and measured in some way on those who use them.

Most forms will be improved if these simple guidelines about language and design are followed:

About language

Plain English—poor readers find it hard to understand uncommon words and words of more than two syllables. They should be avoided for all our sakes. Examples found on forms during the review are shown below together with possible alternatives:

accordingly	so
commence	begin, start
residence	home
facilitate	help
obtain	get
regulation	rule.

Make a list of the long or uncommon words which appear on your forms which could be avoided by using a simpler alternative. Such a word list helps to avoid difficult words that appear frequently on forms. It is not patronising to use simple words, but helps us all to read and understand with greater ease what is being said.

Punctuation—Some kinds of punctuation confuse the reader, especially brackets, dashes, colons etc. They are not normally needed. Only full stops, commas, and question-marks are readily understood.

Short sentences—Sentences should average less than 20 words. The length of sentences should vary and each should convey a single statement in a positive way. Paragraphs too should be short.

Verbosity—If the form is too long it is less likely to be dealt with properly. Words and messages should be chosen sparingly. Précis the content of a form so that prominence is given to the most essential ingredients. Delete words that are padding to the main points. But do not take out linking words that help understanding.

Single questions—Questions that span more than one point or permit several answers are difficult to understand. They can be ambiguous, for example, 'Are you still at school or college or have you recently left? Yes/No'. If the question cannot be rephrased it should be shown as separate questions, each with a single statement expressed in a positive way.

Explanations—Sometimes the need for a question may not be obvious to the reader. Sometimes extra details are invited. Questions may often need explaining, preferably by giving examples. All this text should if possible be placed beneath or alongside the questions they explain.

Jargon—Official or abbreviated language can slip easily from the pen of officials familiar with its meaning. Jargon should not be used. Persistent attempts should be made to find alternative descriptions for words or terms that have a special meaning. Forms do not always have to be a complete translation of the law, particularly if they make that point clear. Reference to where the law can be found may be a better and more effective way.

Sources of help—Although forms cause recipients problems, few forms say where help can be found. To do so shows the recipient that someone cares that the form is understood. At the same time it can prevent errors being made.

About design

The way a form is designed also influences how it will be understood. There are many ways of presenting information. A dense and unattractive form will immediately appear as hostile. It is unlikely to provoke a good response. Although technical and specialised training is needed to make best use of layout, typography and colour, these simple rules are basic to good design:

Line length—Ideally, lines should not be more than about 12 words long. Any longer and it becomes harder to read. Text should be placed in columns. Consider using paper of a different shape or size where necessary to achieve this.

Consistency—Understanding will be improved if the basic structure of the design and type is consistent. Variations should be avoided except where necessary to draw attention to a point or improve the appearance overall. Good 'house-styles' help build caring relationships with people and increase understanding. They can also be very functional and help businessmen get familiar with many forms.

Layout of sections—Space and text on a form should be organised carefully. Information should be arranged in a logical sequence for the recipient. It should be clearly but helpfully signposted, for example 'What you must tell us' or 'Please answer all questions' instead of 'Particulars to be provided by all applicants'. Information that is most important should be placed at the beginning of the form or otherwise referred to at that place. Use all of the paper to advantage.
Answer spaces—Enough space must be given for replies to be entered. Special allowance should be made if recipients are likely to have large or unsteady handwriting. Questions which can be answered instead by 'tick boxes' can help.
Type size—As a general rule, the *minimum* size of type used should be that whose 'x-height' (ie the height of the lower-case letter 'x') is 1.5 mm. The type size in this journal is an example of that minimum. The amount of white space between lines also affects comprehension.
Colour—In addition to internal coding, the use of colour can also be justified because it affects perception and can increase effectiveness. Colour (and graphics) can be crucial to making a form effective, particularly if it is unavoidably long and complex. Text must contrast well with the colour of paper. However, using colour requires technical knowledge, and decisions about it should be taken only on advice from qualified staff.

Effectiveness
When is a form effective?—A form can only be effective when:

- it is understood;
- it is used by staff and the public as the designer intended;
- its cost-in-use is the minimum necessary to achieve its function, and is no greater than that which justifies it.

How can effectiveness be ensured?—This can only be done by some sort of testing. But first of all, the objectives of the form must be specified in terms which can allow success or failure to be clearly measured. This should cover:

- the purpose of the form;
- action for staff;
- action by the public.

Effectiveness can then be checked by comparison with the results of simple tests. Ideally each form should be 100 per cent effective. However, conflicting needs and the wide variations among those using forms may

make this difficult to achieve. Standards should therefore be set which can be achieved. But there is no room for complacency.
How can effectiveness be measured?—There are three criteria:

(1) comprehension;
(2) performance;
(3) cost.

Designers should aim for a 100 per cent understanding of all forms by officials. Comprehension of external forms by the public is vital to effectiveness. At least 90 per cent of a representative sample should understand each part of a form under test conditions. It is difficult to measure the performance of forms which provide information only and do not require a response. For forms which require a response, error rates and other measures can be devised to test if the specified objectives of the forms are being met by staff and the public. The standard of performance should be expressed as a percentage of cases in which this was successful. It is recommended that departments should set a 90 per cent performance standard for all new forms. Existing forms should be brought up to this standard as they are reviewed.

Testing appropriate forms against the 'Fog Index' (frequency of gobbledygook formula) is a quick and useful guide. This takes account of the length of words and the number of words in each sentence. (This article scores about the same as the popular daily papers.) But like most simple tests the results are not infallible. Assumptions should be made with caution and where appropriate backed up with other tests.

When new forms are created or substantially revised the implications of them for the public as well as the department must be taken into account. In almost every sum made during the review, the cost of using forms fell most heavily on the public. This is not surprising when you consider that:

- forms are designed for our systems;
- we do not have to read the text of them;
- we deal with forms in bulk.

A sensible balance must be drawn between the need for information about costs, the resources used to obtain the information and the benefits which may result. Line managers will normally require fairly simple methods for assessing the costs of their forms inside and outside their department. Appropriate methods described by departmental forms units are likely to be based on sampling techniques. Results will be indicative rather than scientific.

Very little is known about the cost of bad forms to a department; much less still about the burden these are on the public. It is for this reason that

the burden on the public is often larger than it need be. Not until information about using forms is quantified can:

- decisions about creating and designing forms (and their procedures) be taken objectively;
- there be systematic action to reduce the volume and burden of forms and progress measured.

There are simple measures to assess the cost of forms within departments but not outside them. The time which the public spend dealing with a form can only be established by enquiry. A value can be placed on this time by relating it to national average earnings. The costs to business of government forms are complex and may require more precise evaluation. Actual costs should be used wherever possible. These should be sampled individually for major forms or collectively for other groups of forms. Where actual costs cannot be obtained, notional costs should be assessed with, perhaps, the help of a trade or other representative body. Techniques for costing and testing will be developed and refined. A little more information about these can be found in the report by the MPO *Forms Under Control**.

Getting better forms requires you to take a personal interest in their success.

Where to get help . . .

about language and design—Both HMSO and COI undertake specialised forms design. Additionally, COI offer editorial, testing and research services.

HMSO
Graphic Design Unit 6
St Crispins
Duke Street
Norwich NR3 1PD

COI
Head of Home Editorial
Publications Division
Lincoln House
Westminster Bridge Road
London SE1 7DU

*Available through departmental forms units or from Central Management Library, Management and Personnel Office, Whitehall, London SW1A 2AZ. £12.

about training—

Course Manager (Forms)
Systems Training Directorate
Civil Service College
11 Belgrave Road
London SW1V 1RB

generally—Speak to your departmental forms unit – usually in Management Services.

Public Service Management — An Elusive Concept?

P D Jones

This article is by Peter Jones, Secretary of the Council of Civil Service Unions. It expresses his own personal view of the problems of management in the public service, and particularly in the Civil Service.

An empirical view

Whether or not I am qualified to give a view about management problems, readers of this article alone can judge. My only personal experience of management was in the day-to-day running of a small social security office over 25 years ago. Since then, however, I have been closely connected with, and a close and concerned observer of, the central direction of the Civil Service and, in particular, its industrial relations. This has given me an opportunity to observe how management problems in the country's largest organisation are tackled – or perhaps more accurately for most of the last 25 years, not tackled. I hope, therefore, that the following thoughts, based upon personal observation, will provide some contribution to the study of the basic problems of Civil Service and, *inter alia,* public service management.

©Crown Copyright 1982
Management in Government 1982 (3) 154–162

Trade unions and management

It is a reasonable question for any reader of this article to ask: why should a trade unionist be interested in management? It could also be asked, in equally reasonable fashion, don't trade unions prosper if management is weak and ineffective? Some of those whom I represent might add, 'Don't waste your time talking to the bosses, get on with your real job of improving our lot'.

Against all this, there are a number of very good reasons why, in the particular context of Civil Service trade unionism, a paid official should take a constructive interest in management problems. In the first place, we happen to represent around 200,000 people in management and supervisory grades – this is around 35 per cent of our total representative capacity – and their interests require appropriate attention, particularly as many of them articulate their viewpoint as managers through their trade unions.

Next, there is the question of the general good of the Civil Service. If the Civil Service is well-managed it is a reasonable presumption that *all* those employed in it will enjoy a better working environment, with reasonable pay and conditions. Public esteem and the esteem of politicians, even if grudgingly given, is likely to be at least as effective a long-term weapon for public servants as the more traditional, and sometimes essential, manifestations of trade unionism.

Finally, and this is the compelling reason for me at least, there is the fact that you cannot work in, or alongside, the public service without becoming infected by the desire to improve it. Cynics may say that the reforming zeal of public servants is their own worst enemy, but Oscar Wilde was right about the essential superficiality of the cynic. Concern for, and a deep interest in, the quality and effectiveness of the services delivered to the public is a priceless asset which, despite recent vicissitudes, still remains deeply entrenched, particularly in civil servants. Civil Service trade unionists, with roots deep in the Service, are not immune from this basic feeling. And as the quality and effectiveness of public services depend almost entirely on the good management of the resources employed in providing those services, the locus of Civil Service trade unionists in looking critically at management effectiveness is fully established.

The nature of the problem

Of necessity, this article is primarily concerned with the Civil Service, but I would hope that some of the views expressed are relevant to other public service organisations. The problems of the National Health Service, the education industry and local government seem to have more in common with large Civil Service organisations than not. The Ministry of Defence may not seem to have much in common with, say, the hospital service but,

on closer examination, the basic management problem is the same: how to deliver the most effective operational service with the (unfortunately) limited resources available. If you then add the political dimension, with its (current jargon in-word) 'pragmatic' approach, the similar propensity for inducing management bemusement and confusion becomes even clearer. (As an aside: my edition of the *Oxford Dictionary* defines 'pragmatic' as 'meddlesome, dogmatic'.)

So, with the simple, but, I hope, not simplistic, approach of a trade unionist, the commonality of public service organisations seems reasonably clear; the commonality of their management problems seems equally clear.

Next, in trying to grapple with the overall dimensions of public service management, it seems necessary to look at the resources employed, their nature and their source.

First, in looking at the nature of the resources employed in the public services the most important feature, it seems to me, is the labour-intensive nature of public services. Put crudely, public services are provided by people. As the Treasury pointed out recently in their evidence on the 1982 Civil Service arbitration case:

> 'The cost of public service pay represents nearly a third of public expenditure as a whole, and the share of public expenditure as a proportion of national resources has risen from under 40 per cent of gross domestic product a decade ago to an estimated 45 per cent in the present financial year.'*

My calculation is that this statement shows that the pay of public servants represents about 14 per cent of the gross domestic product – an amount which probably equals the other major component of Government expenditure: health care and social security payments. In the Civil Service, pay represents around 70 per cent of total administrative costs, thus confirming the fact that labour is the dominant resource employed. It follows from this that Civil Service and public service management is primarily about managing people. Technological developments and arbitrary manpower cuts may make a marginal difference in the future, but the Civil Service will still remain a labour-intensive service industry, as will the remainder of the public service.

Secondly, in looking at the source of the resources employed, it is interesting to note what the Treasury spokesman, Mr Le Cheminant, said at the recent arbitration hearing:

> 'The Government has no money of its own. It can only take money from the taxpayer'.

No doubt this statement reflects the view of the present Government, and a sophisticated economic argument could be mounted to show that, given the totality of national resources, the part allocated to public expenditure should be regarded as the essential price of maintaining a modern society, ie 'gross' domestic product should be reduced to produce a more realistic 'net' figure after taxation, like most people's wage-packets.

Be that as it may, the fact remains that the cost of public services is met almost entirely from taxation. It also has to be recognised as a dismal fact of life, that the British are not attracted to 'high' taxation rates, and that a limit of tolerance to taxation levels was probably reached sometime during the 1970s. This is despite another telling fact: amongst advanced countries, Britain is not, relatively speaking, highly taxed. (A recent article in *Economic Trends** showed that, of 14 advanced countries, Britain lies in the middle-ranking position of seventh in the league table of taxes and social security contributions as a proportion of gross national product.)

If the foregoing analysis is correct, the twin management problems facing the public service are, first, the management of people – probably in a worsening staff relations climate – and, secondly, the juggling of scarce resources against increasing public demands for better services. The pressure will be for a *Rolls Royce* public service, but at *Mini Metro* prices.

The nature of the organisation

Any attempt at analysing management problems must begin with an understanding of the basic nature of the organisation being managed. Some years ago, and as part of a discussion paper provided for Sir Derek Rayner, the Council of Civil Service Unions did an analysis of the functions of the Civil Service, broken down between the traditional 'administrative' work of the Service (ie policy formulation) and the operational work, which has become increasingly prevalent since 1945. The results were quite startling. Even on a generous interpretation of 'administrative', only around 15 per cent of civil servants could be regarded as being engaged in the work most usually associated with the 'Whitehall' Civil Service. The remaining 85 per cent, mainly in basic grades, were found to be engaged in providing community services, in raising revenue or in supporting national defence. This analysis seems to indicate that there may be something wrong in the current Civil Service emphasis on the primacy of the administrator – a primacy, incidentally, which was confirmed once again by a distinguished former Permanent Secretary in the last issue of *Management in Government*. Surely there must now be a case for recognising at least an equal status for management? As a biased observer, I would give management the prime role and status. After all, the effective

*December 1981 issue, HMSO, £8.50.

management of resources will *create* policy options for ministers and administrators to deploy. The post-Imperial era, with its assumptions of unlimited resources to support desired policy objectives, is now finally over. Can we, perhaps, learn something from the French Civil Service, which is more inured to the frugality of an inherently peasant society?

The real importance of giving management its proper status lies in the basic contradiction between the ethos of the administrator and that of the manager. The former works upwards; and the latter downwards. The former is concerned with intellectual and judgemental considerations; the latter with practical requirements often having little or nothing to do with dispassionate intellectual factors. The former is often introverted, with skills developed in closed groupings; the latter is usually extroverted, with an understanding that managing people requires innovative skill, courage and, most important of all, leadership qualities. In recent years, attempts have been made to reconcile these conflicting requirements. A number of administrators have been given the opportunity to 'manage' something (often with predictable results), whilst a few managers and specialists have been given policy jobs (again with predictable results). The attempt to produce a 'Renaissance-man' senior administrator/manager is laudable but, given the increasing complexities of both avenues, it seems unlikely to succeed. The danger lies in getting the worst of all possible worlds with, in the meantime, an understandable confusion about the role, training and experience of those allocated to senior management posts.

Management constraints

There is some evidence that the reality of public service management problems is being appreciated. Recent statements by the Lord Privy Seal, bolstered by the MPO's *Early Tasks* document, seem to recognise the increasing importance of the manager in the public service. The stress being laid upon the development of financial management systems is another sign that the need for change is becoming accepted. After all the gimmickry of the post-Fulton era, when any plastic package delivered by persuasive management consultants seemed to find a ready home somewhere in the public service, it is now being realised that there is no feasible alternative to a home-grown form and operational mode of management. Whilst private sector organisations may provide clues, and even practicable propositions, these are no substitute for the hard slog of developing an in-house management style. But what are the constraints in doing this? First, there is the overall climate to which I have referred earlier, in which management is still regarded as an inferior task. Secondly, there are institutional problems, particularly so far as relationships with ministers and accountability to Parliament are concerned. Thirdly, there are the 'people aspects' involved in staff management in a labour intensive

industry. Perhaps I can now turn to these two latter aspects in the following sections.

Institutional problems

Some of the institutional obstacles to improved public service management are probably incapable of removal, so they will have to be lived with. This should not mean, however, that they cannot be mentioned, for, in doing so, at least necessary allowance can be made for their existence. Others should be capable of resolution, or at least they should be re-ordered to provide a better management framework.

The first institutional problem which, like the others I shall mention, inhibits an innovative approach to management, lies in the way in which most public services have, like Topsy, simply grown. With origins in the mists of the past, many public services have developed far beyond their original intention and, very often, far beyond the scope of the organisation concerned in providing the service. The frequent large-scale re-organisations in the health service provide probably the best example, but the Civil Service is stuffed full with similar examples where the right service cannot be provided because the body responsible for it is not properly organised for its task. Embarrassing examples will be omitted, but I am sure that readers of this article will know what I am alluding to!

Next, there are the problems associated with the democratic control of public service bodies. The uneasy relationship, and infinite scope for confusion, between local authority elected members and paid officials is a good example. In the Civil Service there is the paradoxical relationship between ministers and officials, aptly ridiculed in *'Yes Minister'*, but nevertheless unfortunately more prevalent than is often admitted. It is very difficult to manage effectively when the responsibility is shared between people with different perceptions of the aims and the needs of the organisation. Private companies would find it impossible to be fully efficient if; on the one hand, the elected board members were solely concerned with pleasing the immediate shareholders, while the permanent management was solely concerned with the internal requirements of making the company work. Clearly, public servants can never aspire to the relative freedom from universal accountability which encourages the entrepreneurial management styles achieved by some private sector managers. On the other hand, the inhibitions produced by the often divergent – if only in the long-term – interests of politicians and full-time public servants must be recognised fully in developing a public service management style.

Which brings me on naturally to the question of parliamentary accountability. Devised in the Victorian era and intended for a tiny Home Civil Service and vast Imperial Civil Service, the present system of

parliamentary accountability seems archaic. There is no doubt that it severely inhibits civil servants, who, I recall hearing from one distinguished external observer, 'tend to manage by alibi'. Clearly, Parliament will never be persuaded to give up financial control of public expenditure, but need this control be quite so nit-picking? Is it not possible to institute a parliamentary audit to ensure that monies are properly expended, and then for Parliament to concentrate on the *effectiveness* of the use made of those monies? Permanent Secretaries might then become real accounting officers. The Treasury and Civil Service Select Committee have recently been inching into this area, and their further examinations will make interesting reading.

One way of introducing more realistic forms of accountability could be in using the operational agency system developed in Sweden. We already have, in theory at least, three such agencies in our Civil Service: the long-established Boards of Inland Revenue, and Customs and Excise, and the more recent Property Services Agency. Operational agencies, with management boards responsible for carrying out services as laid down by ministers and Parliament, could concentrate on carrying out those services with some degree of freedom from the more transient considerations mentioned above. The relatively low cost of administration against the overall cost of the service provided, particularly noticeable in the revenue areas, could be the basic measure of effectiveness – with freedom to move into new areas without artificial manpower constraints, if this could be shown to be cost-effective. Would ministers and Parliament be prepared to see this degree of freedom given to public service managers? I doubt it. But perennial cries for greater efficiency, concern about staff numbers and arbitrary manpower cuts would perhaps be better received if some attention were given to the other side of the equation.

'People aspects'

I have left this to the end because it is, quite simply, the most important. It is also the one which has been consistently overlooked in recent years. The media and political alienation of public servants from the social value of their work is a baffling phenomenon. Perhaps its origins lie deep in the innate British dislike and fear of all public officials. Some public officials (like the police, as Lord Scarman recently noted) have reacted by retiring into select, protective groupings. Most, however, are just hurt and bemused. It is a major surprise that the zeal for public service, together with any vestige of morale, has remained. But it has remained, even if only in vestigial form, and effective management in the public service can only be achieved if this is built upon and the basic trust and confidence between managers and operatives is restored and developed.

As mentioned earlier, the public services are labour-intensive: the services provided to the public are only as good as the people providing them. You can organise work and provide equipment *ad nauseam* but if the people concerned in actually doing the work are uninterested and lacking in motivation, the service provided will inevitably be poor. And as the day-to-day contact between the Great British Public and its public servants is almost invariably at the basic grade level, the crucial importance of providing efficient and effective services at this level cannot be over-emphasised.

How can this be achieved? One certain route to failure is the 'kick 'em while they're down' approach being demonstrated in some parts of the public service at present. History is littered with the examples of those who have lived to regret taking what they saw as a short-term advantage. The way to get the best out of the people employed in the Civil Service, and elsewhere in the public service, lies in the opposite direction: in recognising their legitimate needs and aspirations as human beings doing important but often unrewarding jobs in large and often impersonal organisations.

So far as individuals are concerned, the route lies in developing personnel management practices through the gamut of job placement, training, development and appraisal. For those facing personal or family difficulties, good personnel management should ensure that a constructive and helpful approach is adopted: a sound investment for the future when things are looking better for the individual concerned. In corporate relations with staff, it has to be recognised that the public services are highly-unionised, with a ready tendency towards collective action when perceived interests are threatened. Despite the fervent wishes of some short-sighted managers, the unions won't just go away. The record shows that they thrive in difficult periods, and this is certainly our experience at present. What is needed is to come to terms with industrial relations realities, to devise procedures to obviate problems and, if they do arise, to deal with them fairly and effectively. The natural interest of public servants in the quality and purpose of the work they do should be recognised, and this interest should be channelled into productive uses. But, above all else, there is the basic question of pay, too often dismissed as a mere 'hygiene factor'. Pay is the main reason why most people go to work. You need to be well-paid to get job satisfaction from the work alone, and the vast majority of public servants are in, and are likely to remain in, low-paid jobs. No great pay revolution is required to put the situation right – just a 'felt-fair' situation (usually a reflection of lateral or internal comparisons), with a third-party referral arrangement available if necessary. Imposed pay awards foster grievances and degrade the recipients. People need to feel some involvement in their pay de-

termination, even if only the right to have their case examined by an independent third party. If pay is wrong, then the whole atmosphere is poisoned, and the most powerful – and potentially the most autocratic – employer in the country, the Government, should never fall into the trap of enforcing low pay increases by *diktat*. In the words of the famous American maxim: 'If you pay peanuts, you get monkeys'. This is a salutary thought for management in any labour-intensive industry.

Conclusion

The above views are put forward by an admittedly biased observer. Part of my bias derives from my job, which is to promote and protect the interests of the civil servants who employ me. The main part comes, however, from a deep and committed belief in the social value of public services, particularly those provided for the more needy sections of the community.

Most of the ideas in this article are probably too radical to get off the ground, but they nevertheless need to have an airing if the (possibly) intractable difficulties facing public service managers are to be, if not overcome, then at least understood. In the meantime, public service managers will just have to continue doing the impossible as best they can. Crisis management, with all its attendant expediencies and inherent waste and instability, will most likely continue to be the unavoidable 'style' of public service management.

Appraising the Worth of Office Technology Systems

R N Burton

Ron Burton, formerly an Assistant Secretary in the Central Computer and Telecommunications Agency currently holds the Gwilym Gibbon Senior Research Fellowship 1981/82 at Nuffield College, Oxford for research into the investment appraisal of computer systems.

What is the 'new' office technology?

Much has been written about the subject of office technology and such apparently synonymous terms as office automation and the electronic office; and the whole is seen as part of the more general concept of information technology which extends to include traditional computing and related developments in telecommunications. Particularly in the UK Information Technology Year of 1982 this wider subject should need no further introduction. However, the office technology area itself is difficult to define with any precision. There are, for example, indeterminant boundaries between mini – and micro-computer developments on the one hand, and between programmable electronic equipment and more traditional office equipment on the other.

Because of this, some writers are content to introduce the subject without a considered definition. They may refer to it as a product of the 'convergence' of computer, telecommunications, and office equipment technologies; or as part of the wider spectrum of computerisation; or simply in terms of a list of new devices or systems, eg word processors,

©Crown Copyright 1982
Management in Government 1982 (3) 163–176

micro-computers, etc. This tendency to see office technology as an extension of something else is understandable and indeed has validity in evolutionary terms; it might also be a reflection of the fact that most large organisations currently continue to spend far more on traditional ADP (automatic data processing) computer systems, eg mainframes and mini-computers, than on the new electronic office technology. The Government, for example, while the largest single user of information technology in the UK, with an outlay of around £100 million a year on computer systems (approaching £300 million if staff costs are also included), and with about 500 micro-computers and 400 word processors installed in its offices, nevertheless spends well over 90 per cent of this total outlay on mainframe and mini-computer systems (which now number around 650).

It is important, however, to be as clear as possible about the nature of office technology. Not only does it contain the seeds of even larger changes in office processes than those brought about by the computers of the 1960s and 1970s, but it will also be posing quite new problems for those concerned with investment decisions in this area. It is towards these latter problems that this article is primarily directed, but in order to develop the discussion on a proper basis it will first be necessary to go a little further into the distinguishing character of office technology.

The distinction between office technology and the main course of computer development so far lies not such much in the physical boundaries between the two as in their different purposes. The present development of office technology may in total be relatively small but it has the potential to bring about a much more fundamental change in office management and organisation. Mainframes and mini-computer ADP systems are largely concerned with the processing and handling of data for large specialised functions, eg the processing of payments, accounts, orders, cases etc., previously carried out by armies of clerks; and they are typically in separate locations with large numbers of supporting specialist computer staff. In contrast, office technology penetrates the existing office environment; its aim is to improve general-purpose office activities and is therefore typically more concerned with text than with data; normally it does not require any special physical environment; and the equipment can be operated by non-ADP staff.

The contemporary scene therefore reflects heavy, and probably to a large extent, continued reliance on separate ADP centres carrying out major specialised functions; but with an increasing penetration of existing offices by new forms of technology that will progressively automate more general-purpose office activities. They can both be parts of the same organisation, and with the development of networks they will be increasingly linked, eg with local offices accessing large computerised

data banks and the computer centres obtaining input from local offices. But whatever the degree of linkage, significant differences in function, environment, and staffing will continue.

A possible definition of office technology is therefore:

> 'The application of electronic technology in an ordinary office environment to create, process, store, retrieve and communicate information, eg text and data, in order to improve directing, managerial, specialist, clerical, and office support processes'.

Note the reference to – 'electronic' which goes wider than 'computer based', to 'ordinary' to distinguish from specially-prepared environments, to text as well as to data (but not excluding graphics, voice, etc.), and to the potential range of processes and therefore types of staff affected, ie all levels of office staff from the most senior to messengers.

Why is there uncertainty about office technology development?
One does not have to be particularly well-informed to know that the 'new industrial revolution' reflects a reduction in the proportion of the work-force devoted to making things and a parallel large increase in office (or white-collar, or information) workers. The second half of the twentieth century is seeing in western countries a growth of such workers to an extent that in the United States, for example, they now account for around half of the total employed population. Coupled with this trend there has been an even greater proportionate increase in office costs (salaries, accommodation, and other overheads), so that these costs now constitute a major proportion of the gross national product. Other evidence points to the low level of investment in the automation of office processes in comparison with factory processes (one authority puts this at around 10 per cent in western countries), and to the growing pace of technological development that makes further such automation possible.

Against that background, therefore, a range of pressures on users to automate their offices manifest themselves. There are the various 'cultural' pressures which stem from such things as electronic developments in the home and in educational institutions, the exhortations made by government and other national institutions, and reports carried by the media. All these generate a feeling that without some involvement with electronic devices one is not properly 'switched on', not patriotic, not even properly literate. More specifically, there are the various market pressures – the new technological developments themselves, the very strong sales pressures exerted by suppliers who are themselves jockeying for positions in a volatile and expanding market, the constant pressure on users to contain costs and streamline processes, and their need to keep up with competitors or, in the public service, to respond effectively to the requirements of public accountability.

Given these pressures, one would have expected to see the adoption of office technology rapidly achieving a galloping momentum. Indeed, a first impression is that such a momentum is actually being achieved. So much that is being written and said suggests that the new office systems are well-advanced and that organisations are pushing rapidly ahead with their introduction and development. However, in reality although much of interest is occurring and some progress is being achieved, the advance is more in the nature of individual streams of varying strength than of an all-engulfing torrent. The impression that something more revolutionary is happening is generated partly by pressures from the 'cultural' background, partly by publicity by suppliers or generated in their interest, and partly by independent surveys of various kinds which although showing healthy percentage increases in use of new types of office systems do not bring out sufficiently that such increases may be starting from a low or even a nil base.

If the real situation is that only a minor percentage of the total office workforce has so far been directly affected by office automation why should this be so? In the face of the economic case for office automation and the apparent availability of the technology for that purpose, should not some more substantial inroads have by now been made? Is it a case of direct opposition by workers, or supply problems in the market place, or of users dragging their feet?

The first two do not seem to be of critical importance. There has been some resistance but on the whole favourable progress has been made with concluding new technology agreements with staff; such an agreement was, for example, concluded with the Civil Service unions during the early part of this year. On the supply side, low costs of entry and fierce competition have produced a situation where supplies are plentiful and prices are keen. The explanation may therefore rest more with the users' response.

It would be a brave man who would generalise confidently about users' attitudes, but one cannot get away from the impression that the prevailing mood among them as regards office automation is one of uncertainty. There is no dissent from the general proposition that automation offers an answer to the containment of office costs or even that it could lead eventually to revolutionary changes in the office environment as we know it today. More specifically, there is wide recognition of the viability of automating certain functions, eg word processing, and considerable change is taking place in such areas. But for all this the general response so far has been limited and cautious. A recent report by the Butler Cox Foundation stated that 'few organisations have been able to prove, on economic grounds alone, that their expenditure on office systems has produced a worthwhile return' (Report No 19: *Office Systems Strategy,* July 1981).

Reasons for this caution vary greatly according to circumstances, but the most commonly expressed are:

- Users have a suspicion that suppliers seem to be more intent on producing attractively packaged solutions to problems as they see them (or even solutions in search of problems) rather than concentrating on the user's requirement and how it might best be met. This may be due in part to the fact that the technology is running ahead of the user's perception of his needs. The sales drive may, for example, be directed towards extolling the range of a system or device in terms of its capacity, versatility, etc., with the larger the range the greater the user's liability as regards price, lack of reliability, etc. What the user really wants, however, is something to do a specific job in the most cost-effective, straightforward, risk-free, and easily-adaptable way;
- There is, on the other hand, also evidence to suggest that users are uncertain about what their real needs are in these circumstances. They may be clear about certain specific functions eg word processing, but beyond that they are not sure whether or not the 'solutions' offer really cost-beneficial gains over existing ways of doing things.
- A special aspect of this uncertainty is the software ie the programs that enable the equipment (or hardware) to carry out the required functions. Some argue that this is indeed the major constraint as software development has not kept up with hardware development. It can constitute a major, and difficult to predict, cost factor, particularly if (and this is not infrequently the case) the supplier's support is primarily in respect of the hardware.
- The impact of the new devices on the market has largely coincided with a period of economic depression and financial stringency. This check to expansion has an obvious effect on any organisation's motivation to invest in innovatory development, particularly if it is to put further jobs at risk.
- Apart from anxiety about jobs and its effect on industrial relations, there is a whole range of human factors to be taken into account – changes in ways of working, redeployment of staff, grading problems, training, etc. In aggregate these factors can have a powerful psychological effect on the work-force, and correspondingly can damp down the motivation of management to introduce, or further develop office automation.

The result is that although few dispute that over the remaining years of this century the increasing pace of automation will indeed bring about great changes in office working, the present position is predominantly one of doubt and uncertainty. It is also one of considerable turbulence as

different innovations and suppliers compete for attention in a volatile market and different arguments about what the future pattern will be come forward, hold sway, and then subside. This suggests that special problems will also invariably arise in regard to justifying expenditure on the equipment and systems required.

Factors relevant to justifying expenditure on office technology

The usual approach to justifying a decision to commit funds for expenditure on a capital project requires, after the option has been agreed, a number of basic processes, ie defining the boundaries of the project, identifying and assessing the costs and benefits, determining the length of life, discounting (to bring the time-related costs and benefits to a present value), taking into account the elements of risk, etc. The result is expressed as the (NPV) 'net present value' which, if it is positive, is taken as the indication of the extent to which the proposal may be considered financially justifiable.

In the government service, partly because of the pressures exerted by systems of public accountability, the approach involves a concentration on processes directed towards a maximum amount of quantification and a somewhat inflexible application of those processes. An inevitable consequence is that there is a corresponding diminution of the importance of those costs and benefits which cannot be quantified. Some aspects of this approach are therefore of particularly dubious validity when applied to the appraisal of computer projects because it is in this category of projects that the 'unquantifiables' or intangibles are becoming of increasing significance.*

Nevertheless, even though there is an emerging case for introducing more flexibility into the processes for the investment appraisal of computer systems, the essence of the traditional approach remains sound. But the same cannot with certainty be said about the appraisal of office technology projects, which are giving rise to some distinguishing appraisal features. It is not easy to generalise about these features. The diversity and uneven development of office technology reflect a range of factors, some of which tend to simplify the appraisal process and others to complicate it. Indeed – and this will be discussed later – the distinction between simplifying and complicating factors may be related to stages of development and the situation as a whole may be becoming progressively more complex. The following two-fold classification should therefore be seen not as a division into watertight compartments but as possible ways of looking at the present stage reached.

*This subject was earlier considered by the author in an article *'Investment Appraisal of Computer Projects', Management Services in Government,* November 1981, pp 225 – 241.

Simplifying aspects are exemplified by the following:

- The present acquisition of office technology equipment typically involves a modest outlay. The expenditures, either for individual items or for multi-orders for the same or similar items, are not only small but the kit can frequently be bought off the shelf. Also, unlike the traditional ADP projects, the systems do not have to be developed over a significant period of time before they are properly up and running. This suggests that we may be moving more into an area of 'consumables' rather than of capital outlay; the cost still needs to be justified, of course, but without the same degree of detail in the appraisal processes.
- The impetus towards simplification is strengthened by other factors. The new systems are much less demanding than traditional computer systems in terms of operating environments; they are, for example, accommodated in general-purpose buildings, they can fit without significant disruption into normal office surroundings, and they may be operated by non-ADP staff. This means that a whole range of complex appraisal issues affecting, eg length of life, project parameters, risk, etc., need not figure in the evaluation.
- The indications are that the tempo of technological change will if anything tend to accelerate further. The design life of office systems, which is already relatively short, may therefore become even shorter. This will strengthen the move away from including any time dimension, and hence discounting, in the appraisal.
- A not uncommon feature in the development of office systems in large organisations has been the spread of replicated or similar systems on the basis of one (or a few) fully-tested and successfully-introduced systems. The initial full appraisal can therefore serve as a basis for wider approval for large numbers of like procurements.

But parallel with the simplifying aspects there are a growing number of complicating factors:

(1) The benefits to set against costs tend to be less tangible. The present emphasis is not so much on savings in posts, which can easily be expressed in monetary terms, as on enhancements of various kinds, eg standard of service, accuracy, etc., where it would be inappropriate or misleading to express the changes as sums of money. It is therefore difficult to develop an appraisal on a common base. We finish up with an array of 'hard' (quantifiable) and 'soft' (unquantifiable) benefits, an apples and pears situation which cannot be dealt with arithmetically.

(2) Some benefits are so intangible as to defy any normal method of assessment, eg retaining staff, relating to other 'automated'

organisations, job satisfaction, etc., although they could turn out to be of key importance. In particular, there is the quite unpredictable effect which comes from increasing familiarisation with the equipment and which generates its more effective and diversified utilisation.

(3) The requirement can raise special problems. It may fall anywhere within a range of situations from meeting a specific operating need to experimenting with kit which may never be used to satisfy an operating requirement. It may also be 'shadowy' because the user is not really sure what he wants.

(4) As noted earlier, software can be a major constraint. The new forms of equipment demand specialist support in terms of software development, which typically is not fully provided by the vendor and which may not easily be met by a package 'solution'. The software commitment can involve a considerably larger, and less predictable, outlay than the hardware. Correspondingly the design life may be longer than that implied in the simplifying factors.

(5) The marketing of the new kit, generally, is developed in such a way as to underplay the extent of the user's commitment in terms of time and resources on, eg systems analysis as well as programming, technical, support, training of staff, and changes in organisation and patterns of working.

(6) New staffing issues as exemplified in the provisions of new technology agreements regarding, eg consultation, redundancy, redeployment, etc., impose new types of costing considerations.

(7) The cost benefit implications of interaction between systems need to be identified and assessed. Increasingly the various systems as they develop and spread will begin to interact with one another and with established, more specialised, systems, and it will become correspondingly more difficult to keep the appraisal analyses of the different systems from interfering with one another.

(8) There are many human factors. Some are touched upon above, but there are others. Much has been written, for example, about the complications that flow from conscious and sub-conscious resistance to changes in 'office cultures'. This goes much deeper than training, redeployment, etc. – it relates to embedded patterns of working and hierarchical relationships that can change only slowly. Indeed, perhaps the most fundamental complicating factor of all is human inertia because it conditions in one way or another the whole benefits side of the equation.

This analysis suggests that the development of office technology will necessitate some modification of the existing investment appraisal approach. In particular, if a sufficient proportion of the benefits cannot be expressed in monetary terms, the calculation of a credible NPV (the main peg for financial approval in the existing approach) becomes correspondingly more difficult to achieve.

Different approaches to appraisal

So far office technology has been discussed as if it were one subject. It will be readily apparent to any observer, however, that it is in reality a complex of different types or strands of developments. A further difficulty is that the whole scene is moving so rapidly that one is never quite sure what one should be aiming at. Although general statements about the appraisal implications can with some validity be made – as indicated in the preceding paragraphs – any further analysis takes one into the different categories of office technology. It is not possible to cover the complete field, but three prominent strands can be identified, particularly with a view to exemplifying different emphases in the approach to appraisal. The first dominates the current scene. This comprises the relatively simple and small stand-alone applications of text devices (eg word processors) and data processing devices (eg micro-computers). These have largely progressed through the experimentation and trial stages, and can be used to meet specific operating requirements in a cost-beneficial way. Their appraisal therefore involves no radical departure from the normal investment appraisal approach, although such an approach should incorporate as many as possible of the simplifying factors summarised earlier and also give due weight to those benefits which cannot be expressed in monetary terms. We are talking here about the automation of specific office functions, more complex perhaps than typewriters and mechanical copiers, but in the same general stream.

The second category reflects the effect on the 'ordinary' office of the development of networks from the ADP establishments. Increasingly in the Civil Service, for example, the 1980s will see a growth in the number of terminals in local offices carrying a two-way traffic and having a profound effect on the forward development of both office technology and ADP. However, the appraisal in such circumstances cannot be other than a part of the overall appraisal of the ADP project; as such it will be along the lines of existing procedures, though taking into account the case for a greater degree of flexibility as mentioned earlier. This therefore reflects the increasingly direct impact on the office of the mainstream ADP developments.

It is the third category which is potentially of the most importance and the one which poses the most awkward appraisal problems. The central

concept here is the potential offered by electronic developments to link and integrate office processes and provide more information facilities at all levels. The debate is about systems of communicating and handling information, not about types of kit, but current development is probably best exemplified by the local area network (LAN). This is the technique of linking office electronic equipment together and with computers to provide not only a basis for sharing facilities but the personal means via work stations to edit text, process data, store and retrieve information, access data links, and through electronic mail make direct contact with colleagues, etc. LAN is still largely in the experimental stage, but it is already having a catalytic effect on the debate about the office of the future.

Unlike the two preceding categories which are primarily concerned with processes at lower levels, we are concerned here with the potential to affect substantially all levels and so bring about major changes in the style and structure of office working as we know it today. It also marks an entry into a new dimension of costs and benefits; such systems will increasingly begin to absorb large amounts of investment which may eventually approach in scale those being spent on traditional computer systems. Because of this, some of the simplifying factors discussed earlier may be left behind, and because of complex factors relating, for example to human resistance to changes in 'office cultures', new complications will begin to arise. It should be noted that the human resistance does not arise particularly from any Luddite or trade union economic–type pressures; there is genuine concern that the subtleties of human working relationships and of informal information flows will always limit the extent of the contribution made by the new systems. The development of a major linked or integrated system therefore presents a virtually insoluble problem for someone seeking to establish a NPV by means of the traditional cost-benefit approach.

The foregoing summary certainly does not cover the whole scene, but it indicates a number of salient features, ie the related but different nature of office technology in comparison with traditional ADP, the diversity of the developments, the potential scale of change, and how all these have implications for the process of appraisal. There is more than one view current about what the approach should be, eg fasten onto only the most promising lines (eg word processors) and 'migrate' gradually (eg to electronic mail), or press forward on a broader front (eg LANs) with the general aim of achieving a 'critical mass' situation earlier than would otherwise occur. These views are considered in the next section but against that kind of background the foregoing three-fold summary could be interpreted as three successive but over-lapping waves of development, each consecutively reaching its peak in the present, the immediate future, and in the slightly longer term.

The need for more effective co-ordination

Perhaps the most important point to emerge, however, from this turbulent and uncertain scene, is that there is an underlying need for a stronger 'holistic' approach – a more positive thrust towards co-ordination and harmony as these developments begin to affect the whole organisation. It is not only a question of the potential scale of resources involved. As already indicated, administrative computing in the UK government service currently costs in total not far short of £300 million a year, and some American sources suggest levels exceeding a five-fold increase in outlays on information technology as a whole by the 1990s. Of even more importance will be the effects on management, organisation, working methods, and staffing. During the 1980s and 1990s, the office environment generally is likely to undergo a greater degree of change than that experienced since the emergence of the 'modern' office with its telephones and typewriters at the beginning of the century.

The management of information is a large subject in its own right, but it is clear that the future pattern of these developments can be sensibly determined only from the highest level of authority within an organisation. Much computing to date has been concerned with the automation of lower-level processes, and the main ADP establishments have tended to become semi-autonomous 'businesses within businesses'. Other information systems questions have been dealt with by O&M teams at intermediate levels. Uneven attempts have been made to improve the effectiveness of functional information systems, eg finance, personnel, etc., usually on a disparate or localised basis. Office technology now raises vital new issues affecting the whole management and office structure. Throughout, there are questions concerning centralisation and decentralisation, standardisation, responsibility for development, personnel issues, industrial relations, etc. We now move into a phase of the evolution of office working where all these threads need to be pulled more firmly together.

A basic consideration when devising a strategy to meet this challenge will be its very pervasiveness. Indeed, to be effective it must become something of a complement to the corporate strategy for the organisation as a whole. It has to be based on the organisation's aim and operating functions. The logical first step in formulating an information strategy must therefore be to identify the pegs in the corporate strategy on which it should be hung, even though this may not infrequently reveal the inadequacies of the corporate strategy itself! An appropriate focus of authority for the development and oversight of the information strategy might be an Information Strategy Committee chaired by the Chief Executive.

What should be the primary motivation embodied within the information strategy towards the tempo of automation? Should, as has already been indicated, an organisation go gently with the tide, fastening on what seem to be the most straightforward and most cost-effective devices such as word processors and then gradually evolving forward, or 'migrating', to more advanced systems such as electronic mail? Or should it seek to develop the more positive approach of pushing forward on a broader front by means of experimentation and trials of linked systems such as LANs? The choice will depend on the special circumstances of the organisation, but relevant to the consideration of the second course is the concept of 'critical mass'.

Evidence from developments so far suggests that a stage may be reached in the process of automation within an organisation when, because it becomes the norm rather than the exception, the momentum towards the more universal acceptance and maximum utilisation of the systems suddenly accelerates. The complex of human resistances which produce a kind of organisational inertia or drag on the utilisation of the new systems rather abruptly begins to weaken. More research needs to be done to establish the validity of this concept and when the change might occur. It seems to be more than the degree of penetration in terms of equipment, though the scale of automation in relation to number of staff is obviously important. Other relevant aspects are psychological acceptance (influenced by training, education, style of management, and perhaps the age of the user), relationships between staff, and visible leadership in the utilisation of systems by those in authority. The drive towards achieving a critical mass situation might be a key strategic aim because of the important advantages it could yield.

But whatever the kind of forward strategy adopted, the basic difficulty is that the worthwhileness of the various individual developments can no longer be properly assessed simply as separate entities. They are like the steps in a flight of stairs, interwoven in one structure and each building on the other. The aim therefore, should not be solely to assess the cost-effectiveness of each particular step but to take into account as far as possible the value of the progression as a whole. This might involve a more speculative view but it would also be a more realistic way of looking at things.

The problem defined

Virtually all organisations are currently spending, or intend to spend, increasing amounts on information technology, particularly in the area of office systems. To date, much of this expenditure has been oriented towards the development of individual projects. Historically these project-driven patterns of expenditure have in the main been cost-beneficial,

largely because much of the outlay has been devoted to the self-evidently profitable computerisation of large specialised functions, typically in separate ADP establishments. The more pervasive nature, and the increasing tempo, of office automation, however, is now exposing the likelihood that, not only will these expenditures after a modest start now be expanding vigorously, but if proper co-ordinating measures are not taken, large amounts of resources could be expended in a piecemeal and ineffective fashion.

A stronger 'holistic' approach is therefore required, embodying the features that have already been discussed. The keynotes are the need for effective management of information systems as a whole, visible and positive leadership from the highest authority, a planned approach to automation which takes into proper account the 'step-like' progression required, and the recognition in all this that the personnel aspects are of vital importance because the essential value of information systems depends in the end on a whole range of human factors. It is only against this background of a strategic approach, in contrast with the erstwhile project-driven development, that proper consideration can also be given to the new investment appraisal situation that seems to be emerging. The approach to the investment appraisal of office systems, particularly looking forward towards the era of linked office systems, should accordingly be seen not as a search for quantifiable cost-benefit elements on a project basis, but as the development of a plan consistent with the strategy for the organisation as a whole. The specific system plan could, in fact, be a defined sub-set of the broader plan for the organisation. This plan would by its nature involve more of a speculative dimension than that embodied in the traditional appraisal approach.

Nevertheless this approach would not need to imply any weakening of defined accountabilities. The search would be for a new kind of discipline, the main elements of which would be:

(a) a carefully prepared plan with clear objectives to be achieved within stipulated time-scales of which the realisation of quantified benefits would be only a part, approved by top authority;

(b) the plan would incorporate as much as possible in the way of 'costed' elements, but there would be appropriate provision for intangibles, and other possible elements as discussed further below – all agreed with the financial authorities;

(c) the accountabilities would be particularly enforced through a tight system of monitoring; and

(d) the planning/monitoring system would produce on an annually revised basis the resource projections for the following year.

The search for a new discipline might also involve consideration of aspects of evaluation additional to those found in the existing cost-benefit approach. Such aspects stem from an increasingly widely-held recognition that attempts to express all elements of an evaluation in terms of money values are unrealistic. Research has been undertaken for example into utility analysis, activity analysis, performance analysis, etc., each of which seeks to assess in its different way the comparative advantages of different courses of action. None offers a magic solution, but there may be scope here for buttressing the planning approach proposed in the preceding paragraph. Another alternative is the 'value added' (in contrast with the 'cost displacement') approach which seeks a justification for introducing office automation in the increase in 'profit' for the organisation affected. This may have potential relevance in the private sector but it is difficult to see how it could be effectively applied to, eg a government office, if only because of the problem of identifying and putting a value on all the outputs concerned. But again, it would be an area for investigation.

Perhaps a more promising aid to evaluation, which is being systematically developed in the Civil Service, is to conduct trials of new systems on the basis of a carefully structured evaluation methodology. This seeks to cover all significant aspects of prospective changes brought about by the system and to that extent it includes a range of intangibles. The results of such trials would therefore form a valuable input to the suggested planned approach, although it would not of course be possible to predict all the changes in a given operational situation.

The problem can therefore be defined as follows. Although the traditional cost-benefit approach to investment appraisal can, with the introduction of more flexibility and a stronger recognition of the importance of intangibles, still retain sufficient validity to make it acceptable for the evaluation of information technology systems to date, it is going to become increasingly suspect as we move towards the more fully-automated office in the 1980s. Even at this stage, it is not too early to consider an alternative approach, perhaps along the lines indicated in this article, with all its wider implications for the planning and control arrangements for the organisation as a whole. To an outside observer this might seem a reasoned response to the prospective situation, particularly in the light of the more entrepreneurial approach to these problems adopted in the private sector. But it would be a large step indeed for the government service to take because of the implications concerning, for example, the aims of investment appraisal in the public sector, the requirements imposed by systems of public accountability, and the organisational need for a reasonably uniform and easily-delegated set of procedures.

The Fisherman's Honest Broker

I A Brown

Ian Brown is an Information Officer in the Ministry of Agriculture, Fisheries and Food and Editor of the MAFF Bulletin

Terry Plumb is District Inspector (DI) of Fisheries for the South-West. His 'patch' covers some 300 miles of coast – from Chepstow to the Devon-Cornwall border in the north, and from Lyme Regis to Fowey in the south. He is one of nine DIs working around the coast for the Ministry of Agriculture, Fisheries and Food's Sea Fisheries Inspectorate, which acts as the Ministry's eyes, ears and hands.

Sharing his office on Plymouth's Barbican – in the heart of the fishing quarter – are Fishery Officer Colin George (FO), a Scientific Officer (SO) and two Assistant SOs, plus a typist and a Clerical Officer. As well as Plymouth, there are other important fishing ports in the region, such as Looe and Brixham, and at the latter port an SO and ASO are also stationed.

Britain maintains a 200-mile fishery zone which is subject to European Community (EC) law. Between the 12 and 200-mile limit any EC country can fish, subject to conservation legislation agreed by the Community. Fishing is reserved to UK vessels out to 6 miles from base lines. In the 6 – 12 mile belt other EC nations (and in one case, Norway) may also fish – although these rights are often limited to certain species. Much of the DI's time is spent enforcing this. He issues to UK vessels licences to fish for certain species (such as mackerel and herring) when scientists consider the stocks to be in danger of over-exploitation, ensures that the licence conditions are observed, and checks that the size and species of fish landed, together with the gear used to catch them, conforms to the appropriate law – EC or national.

Each DI's task is shaped by the nature of local fishing. Plymouth is a major landing port for mackerel, so the opening of the mackerel fishery each autumn heralds a busy time for Terry and his colleagues. With the weekly mackerel quota set in the licence at a level of 90 tonnes per vessel in 1981, and many vessels capable of taking 300 tonnes in an hour, the temptation to exceed the quota is strong. As Terry explains, 'We find that most boats have to be inspected to make sure that what the skipper tells us is correct'.

©Crown Copyright 1982
Management in Government 1982 (3) 177 – 181

Because Plymouth is a Royal Navy port, each incoming skipper is obliged to report to the harbourmaster in the Long Room. When the mackerel season opens Terry reminds each newcomer of this (many come from Scotland for the season); then it is a simple matter for the Long Room to tell Terry when a fishing vessel has come alongside. The phone call often comes in the small hours of the morning!

Estimating the amount of mackerel aboard a vessel is a tricky business. Mackerel intended for human consumption is brought to land in refrigerated, water-filled tanks. Because the fish sink, the Inspector cannot tell simply by looking whether the tank is empty or full. He has to estimate the level of fish by probing with a rod, and by knowing the total capacity of the tanks (which varies between vessels) work out how much has been caught. One skipper used to make his own rod available for the DI's use, but was so struck by the accuracy of Terry's estimates that the facility was swiftly withdrawn!

This part of Terry's work contributes to the Government's overall fisheries enforcement and surveillance operation. There is a constant patrol of Britain's fishery zone by RN offshore patrol vessels and minesweepers and RAF Nimrod aircraft. RN Commanding Officers and First Lieutenants get training from the Inspectorate when they first start fisheries protection work, and are briefed by the DI or his FO. Terry and Colin may occasionally join the RN officers on routine patrol.

The very existence of the mackerel fishery can, however, cause problems for other fishermen in the area, and here the DI's role as mediator comes into play. The South-West has one of the largest shellfish grounds in the country, with over 60 per cent of the country's crabs landed.

Local shell fishermen often complain about the amount of dumping of mackerel they claim takes place, because crabs will feed on the dead fish rather than on the bait provided by shellfish pots. Dumping of mackerel can take place if a vessel has caught more than its quota, but it can also occur accidentally because of breakage of nets. Part of Terry's job is to acquaint visiting skippers with the problems that dumping can cause, to encourage them to keep it to a minimum, and to tell them where dumping would cause least damage. 'Maybe the purse seiner skipper doesn't think of it when he slips his mackerel', says Terry, 'but it can damage the livelihood of shell fishermen and processors ashore'.

Another problem between trawlers and fixed-gear fishermen where Terry has to act as mediator, is that the former can cause damage to shellfish pots in the sea. As there are over 60,000 pots in the area, the potters are angered by this expensive disruption, but the trawlermen claim their right to fish. 'We have to act as "honest broker" between both sides – both sides are our customers' Terry says 'One's got to reach a sensible solution that will be acceptable to both sides.' On one occasion he

got nominees from the main shellfish organisation and two or three local fishing organisations to meet and settle their differences. The potters agreed to vacate a certain part of the ground and let the trawlers fish. The answer was simple, but it took an impartial middleman to bring the two sides together. Arguments of this kind involve life and livelihood, and could degenerate into violence if allowed to rankle.

Terry has also intervened successfully in rows between bass anglers and commercial fishermen off The Eddystone, and between British potters and French trawlermen on an offshore fishery some 15–50 miles off Start Point. He got the bass fishermen to agree a code of practice – which both sides have agreed to honour – and the French and British fishermen were persuaded to divide the disputed potting area 50:50. 'It's a gentlemen's agreement', Terry said of the latter, 'but it's worked very well over the last three years'.

Indeed, most disputes arise in areas where it is inappropriate to legislate. There is no point in banning trawling over a wide area if the pots are moved a couple of years later. There is a large volume of fisheries legislation, and each DI has to take account of local circumstances whilst still applying the law impartially.

Because he is the man on the spot, much of the DI's time is spent answering queries from HQ to provide information for MAFF administrators over the whole field of Fisheries. The DI can tell them whether any proposed legislation is practicable or even possible to enforce, and its implications for fishermen ashore and afloat. In the South-West, for example, the conditions allow crabs to grow much larger than those commonly found elsewhere in the UK, so it could make sense to increase the statutory minimum size for the region. Says Terry Plumb, 'You have to frame legislation not to hamper fishing but to meet conservation needs'.

To do these and other jobs effectively, the DI has to build up some kind of standing in the fishing community. For his own part, Terry now has a wide range of contacts so that he himself is well known, and his knowledge of the local scene is right up-to-date. He attends the quarterly meetings of the local Sea Fisheries Committee and he is regularly invited to meetings of producers' organisations and harbour committees, and is asked to speak at local fishermen's dinner dances and other social events.

From day-to-day the DI meets fishermen on his routine excursions to markets and ports, checking fish size, net size and gear. And consultation is a two-way street. Most fishermen, when fitting new nets, will ask the DI to check their legality; or, if they plan to fish a new ground, will phone to ask about any special legislation they should know about.

The fishermen are always ready with suggestions, too, and use the local DI as one channel for getting their views across to the Ministry. These views might be on fish conservation, marketing, legislation, or more local

issues such as harbour facilities or interference with fishing.

'The local inspector is the yardstick by which one can measure whether the points are valid' explains Terry. 'He can use his experience of what he knows of the local industry and legislation and can give a fair and unbiased opinion.' All suggestions are taken seriously.

When it appears that the law may have been broken the DI is involved in the preparation of the Ministry's case, in consultation with HQ and Legal Division. If a foreign vessel is arrested by the Navy's fishery protection ship, the DI sees the case through from start to finish. Plymouth is often the nearest convenient port to deal with offences found at sea in the South-West. When the vessel is brought into Plymouth and has had a detailed inspection, Terry phones the Chief Inspector of Fisheries, Peter Derham, or his deputy, Geoff Jennings, to make a recommendation based on the available evidence and his detailed knowledge of the fisheries law and practice.

The ultimate decision to prosecute rests with the Chief Inspector, but he relies on the DI for advice. For the DI, a detailed knowledge of fisheries law is essential. If the case reaches court – for a foreign offender, normally within 24 – 48 hours of the vessels being detained – then the DI must arrange to provide an interpreter, brief the prosecuting solicitor (who is usually a local man acting as the Ministry's agent), make sure a foreign skipper has access to his counsel and defending solicitor, and if the Master of the vessel is found guilty must arrange for the disposal of any gear or catch which the court has ordered be confiscated.

There are other major duties besides. The DI is responsible for the collection of fisheries statistics within his district – what was landed, by whom, and how. These figures are collated by the scientific staff into the appropriate statistical form and sent to Guildford for entry on the MAFF computer. They are then available to HQ and to scientists at the Fisheries Laboratory, Lowestoft for a whole range of administrative, policy, and scientific uses.

As an agent for the Intervention Board for Agricultural Produce, the DI must see that the intervention scheme for fish funded by the EC is properly administered. If the fisherman arrives at port to find a fresh fish market oversubscribed, he may be unable to sell his catch for human consumption. If he is a member of a producers' organisation which observes certain rules – including minimum prices – then he can claim compensation from the European Agricultural Guidance and Guarantee Fund for the part of his catch which is unsold. This applies provided the catch is disposed of in such a way as not to interfere with the human consumption market – such as selling it for reduction for fishmeal. The DI has to certify this by checking the quantity and grade of the fish, that it has indeed gone to the approved outlets, and that generally the rules have been observed.

'In the course of a month, something on each situation will crop up – though on some more than others', says Terry. 'For example, there may be an arrest tonight, or a mackerel vessel may seek permission to land – one of the conditions of their licence.'

More bizarre situations may arise to brighten the DI's round. From time to time, a funeral director may ask Terry's permission to carry out a burial at sea – which theoretically comes within the provisions of the Dumping at Sea Act, mainly to ensure that bodies will not be disturbed later. Then there was the skipper who found his net encumbered by a large, unidentified object. It was only after the vessel had tied up and some fruitless hacking and banging had failed to free the mystery impediment that closer inspection revealed it to be an unexploded wartime mine. The story had a happy ending, but the local bomb and mine disposal team seriously considered evacuating the area round the Plymouth Barbican while the mine was dislodged. And the skipper was compensated by the Navy for the damage to his gear – another little job for the DI who certified the claim.

If a major oil spill were to occur, the DI would once again find himself weighing up pros and cons. Such a spill would normally be cleaned up with dispersants. These must be used with caution as they can sometimes increase the damage to the marine environment caused by oil alone. So when the emergency occurs in shallow waters, the local authority, who are responsible for oil clean-ups there, must seek the DI's approval to use dispersants. At sea, the Department of Trade is responsible for oil clean-ups but, again, the DI's local knowledge of fisheries will be sought in balancing the conflicting interests involved. It may be necessary to allow the oil to reach the beach – though in the holiday season the livelihood of hoteliers and caterers must be weighed in the balance with those concerned with the fish and marine environment.

To give any more than a brief impression of the DI's work would take much more space. As well as the tasks already mentioned, the DI has to advise on harbour grants, has a hand in the immigration arrangements for foreign fishermen, and has duties relating to offshore oil and gas installations – which could soon be big news in the South-West.

But Terry Plumb sees his chief role clearly. 'The DI is the man whom the fisherman sees as the representative of the Ministry – the first man he can go to to complain or get his subsidy claim form signed for one of the two recent subsidy schemes given to the industry. You are not only there to enforce the legislation but also to explain the policy to the fishermen and their organisations. You try to resolve disputes when they arrive, and to prevent them when you can – because the DI is the man the fishermen look to for advice.'

Since this article was written, Terry Plumb has moved to London as a Headquarters District Inspector. His successor in the South-West is Colin George.

Improvements in Staff Suggestions Schemes

R Gapp

One of the other responsibilities of the Editor of *Management in Government* is to co-ordinate policy on staff suggestions schemes. Recent changes in the schemes are described in this article.

Top management of any organisation is always looking for better ways of running its business. Line managers have a responsibility to try to improve the efficiency and effectiveness of the work for which they are responsible, but they may see possibilities of improvements in other areas of work. Junior staff normally have no such responsibility but their detailed knowledge and experience may enable them to suggest improvements in the existing procedures. Staff suggestions schemes encourage staff to develop and put forward such ideas and provide a system for their investigation and the recognition of those adopted.

In all organisations in both the private and the public sectors many suggestions for which awards are made are in essence very simple and provoke the question of why they were not thought of before. But the fact is that they have not previously been considered, and some of them have saved a lot of money. Moreover, the individuals putting them forward had no responsibility to do so.

It is generally agreed that staff suggestions schemes are valuable in promoting good relations between top management and the staff. They demonstrate the concern of top management to improve its operations; they establish a system of communications independent of line management; and they thus provide an effective means for an employee to put forward his suggestions and so promote job satisfaction. On the factory floor they are recognised as a powerful motivation and morale boost for staff. General experience in running staff suggestions schemes is described in a book published in October 1981 by the British Institute of Management.*

**Employee Suggestion Schemes*, BIM, 1981, £7.15 (or £5.72 to BIM members and collective subscribers) including postage and packing.

©Crown Copyright 1982
Management in Government 1982 (3) 182–187

The experience of the Civil Service in running staff suggestions schemes dates from 1903 when a scheme for the payment of monetary awards for adopted suggestions was introduced in the Royal Ordnance Factories. A scheme enabling Post Office employees to submit suggestions for the improvement of factory processes and equipment followed in 1906; and in 1914 the Ordnance Survey Department initiated arrangements whereby their staff could receive monetary awards for suggestions adopted. Other departments followed in the early 1920s. Since then schemes have been improved in a number of ways and, arising from a ministerial lead, further changes have recently been introduced in order to make the schemes more attractive.

In Civil Service departments other than the Ministry of Defence (for which no comparable figures are available), some 400,000 non-industrial civil servants regularly submit over 10,000 suggestions each year of which, on average, over 1,600 (about one in seven) are adopted. The total savings *during the first year* of suggestions adopted during 1980–81 were over £760,000 although, of course, these were partly offset by the cost of administering the schemes.

Within the Civil Service useful suggestions received relate to a number of different subjects. Prominent amongst these are:

- *Saving postage and printing*—For example, £490 was paid to a Local Officer Grade II in DHSS for suggesting that franked labels should no longer be sent with reminder forms; £120 went to a Clerical Officer in DHSS for suggesting the amalgamation of two forms; and £300 was awarded to an HEO in Inland Revenue for suggesting that Recorded Delivery Service should no longer be used for the transmission of legal documents submitted for Inland Revenue stamping.
- *Saving material costs*—£1,000 was paid to a Technical Officer in HM Stationery Office for suggesting substantial savings in the use of paper to cover telephone directories; £170 was awarded to a Craftsman in the Royal Mint for suggesting improvements in coin-production methods; and £2,700 was won by an HEO in DHSS for suggesting the reconditioning and re-use of certain parts of 3-wheeler cars for the disabled.
- *Improvement and better utilisation of machinery and equipment*—£500 was paid to a Locksmith in the Department of Environment for suggesting a specially designed safety ladder for maintaining the roof area of Rampton Hospital; £500 went to a Craft Auxiliary Worker for proposing a modification to light fittings at the Driver and Vehicle Licensing Centre, Swansea; and £250 was shared between an EPO I and a Charge-hand Fitter for suggesting an improved exhaust valve extractor tool for diesel engines.

- *Improved methods of purchasing*—£300 was paid to a Professional and Technical Worker Grade III in the Department of Environment for suggesting a revised system of purchasing batteries.
- *Improved methods of working, leading to a saving in staff time*—£650 was paid to a Telecommunications Technical Officer Grade III in the Ministry of Defence for suggesting an improved method of compiling catalogues and spares lists; and £340 was awarded to a Cartographic Draughtsman Grade III in Ordnance Survey for suggesting a method of reducing the examination time on 1:2500 2nd series maps.
- *Fuel saving*—£180 was paid to a Fitter in the Department of Environment for modifications to central boiler house burners in HMS Osprey; and £640 was won by a PTO II employed at RNAS Caldrose for promoting fuel economy in aircraft hangers.
- *Reducing the circulation/distribution of publications*—£100 was paid to an Inspector of Taxes; and £100 to a Tax Officer for suggesting substantial specific reductions in the circulation of the Taxes Acts.
- *Saving transport*—£250 was paid to a Clerical Officer in MOD for suggesting a more economical routing of service coaches from the UK to BAOR.

These examples have been taken from returns of major awards. There have been many other major awards and, of course, large numbers of smaller awards. As is explained later,the savings during the first year after each suggestion was adopted were at least ten times the amount of the award.

Eligibility for awards

Early schemes provided for the payment of awards only to industrial staff. With one or two exceptions, departments with suggestions schemes for non-industrial staff did not make cash awards to those staff—they merely noted the personal records of the officers making suggestions which were adopted or showed ingenuity. In those days it was considered that the author of an adopted suggestion had the pleasure of knowing that he had contributed something over and above the ordinary requirements of his job to the efficiency of his department and that many civil servants desired no other recognition. The Post Office was the first department to pay cash awards to non-industrial staff; and the advantages of this began to be generally recognised about 1946 when the award of book tokens was suggested.

The development of staff suggestions schemes was substantially influenced by the cash awards made to inventors. Indeed the current instructions provide that technical suggestions should be treated as inventions. For many years awards to inventors were recommended by Royal Commissions; and the 1946 Royal Commission on Awards to Inventors published a compendium of the principles and procedures it adopted in assessing compensation and making awards.

It has been fundamental that to be eligible for an award a suggestion or invention must not only be adopted but must also be outside the scope of the suggestor's or inventor's normal duties. The Royal Commission recommended, however, that awards might nevertheless be given for an invention of exceptional brilliance and utility if the inventor had displayed outstanding initiative and foresight or if he had pursued and achieved his object with dogged perseverance and persistance even in the face of official discouragement. Following the recent review of suggestions schemes it has been agreed that these recommendations should apply also to suggestions. The effect of this will be to widen the range of suggestions which will now attract awards.

In most departments it has been the practice to pay awards only for suggestions submitted direct to the Staff Suggestions Committee. It has now been generally agreed that suggestions submitted through the line manager or, indeed, any other channel (eg through the Principal Establishment Officer by a senior member of the staff) should be equally eligible for awards.

Amount of awards

When cash awards were first introduced for staff suggestions, the scales of award varied from one department to another. A uniform scale was introduced in 1974 in the light of practice in other organisations. This provided that, for suggestions leading to quantifiable savings, the basic award should be 10 per cent of savings up to £10,000 during the first year; and for the few awards for suggestions leading to savings above this the amount was proportionately less – for example, £2,000 for a suggestion leading to savings of £40,000 in the first year. In order to offset the effects of inflation it has now been agreed that basic awards of 10 per cent of savings should be paid for savings of up to £22,500 and awards above that increased by 50 per cent.

Where, exceptionally, benefits cannot be quantified awards are assessed according to the way in which efficiency and effectiveness in important areas of business are improved.

Until recently, when awards have been calculated, the standard percentage of savings has been reduced for a number of reasons: when the

savings have not recurred after the first year; when the suggester's grade, experience and duties have been closely related to the substance of the suggestion; when the suggestion is not original in concept, or at least in application, or does not show percipience or ingenuity, or when it has involved the suggester in no more than nominal effort. It has now been agreed to change the approach and to enhance the calculated percentage by up to 25 per cent when a suggestion is original in concept, or, at least, in application and shows that the suggester has used a significant degree of originality or percipience, or when a suggester has obviously put in a lot of his own time in making the suggestion.

Administration

Staff may be discouraged from making suggestions when the scheme does not work efficiently – for example, when there are long delays in reaching decisions on suggestions or when some staff are dissatisfied with the decisions reached. Departments are therefore being encouraged to improve and speed up the handling of suggestions.

Possibilities of future improvement

Managers are constantly searching for new ways to improve staff suggestions schemes. They find that while good publicity results in an increase in the number of suggestions there is no significant increase in the number of acceptable suggestions. It is likely that increased awards would have the same effect. How then can one persuade people to think more deeply about the work of their departments and produce more useful suggestions?

One answer to this question may be in the nature of the publicity. Several years ago, the Department of Health and Social Security undertook a major attempt to simplify its work and invited suggestions to that end. This initiative produced a bumper crop of useful ideas. A commercial organisation had a similar experience when management publicised a particular problem which they found difficult to solve; the staff suggested the solution. This suggests that the value of general publicity is far outweighed by focussing attention on a particular problem.

Some 30 years ago a paper published in the O&M Bulletin* described how Michelin had set up a suggestions office whose staff went out into the factory and tried to change attitudes in those places which made few suggestions. They found that suggestions could be evaluated by the suggesters themselves with necessary guidance. And in some offices they would sometimes stop the work for three or four hours to ask employees to examine their work and think about simplifying it.

**The Organisation of Suggestions Schemes, O&M Bulletin,* February 1951, pp 32 – 38.

Similar and even more radical ideas had been expressed five years previously by Mr A H Mogensen, an industrial consultant, who read a paper, *Work simplification in offices* at the 1946 annual conference of the National Office Management Association of America.*

> 'We have to do away with the old idea of suggestion schemes where you put boxes around the place and offer prizes and have contests and all that kind of stuff.....'
> 'You have to change your whole formula. Teach your people – everybody – from the President on down to the last person in the company, the sweeper, the elevator operator, how to think, how to use the tools of work simplification.'

We could, of course, adopt these ideas, and some departments have already experimented with some of them. This experimentation however has not come about as development of staff suggestions schemes but as a separate activity bearing the label 'Job Satisfaction' about which several articles have been published in *Management Services in Government* (see *Job Satisfaction: a Review of Progress and a Management Viewpoint* by Marie Shroff in the August 1981 issue). The words of Mr Mogensen serve indeed as encouragement to a wide variety of methods of involvement including 'quality circles' which are now being considered in one area of the Civil Service.

An interesting development in a different direction is the introduction of 'special achievement' awards in the Civil Service of the USA and Canada. These provide for awards to be given not only for making suggestions but also for 'superior performance in the course of duty'. In some circumstances the awards may be an alternative to promotion; and awards can be given either as single payments or as increments on the pay scale. These schemes are more extensive than schemes generally adopted in commercial and industrial organisations where staff may be eligible for a variety of other benefits, such as share options, which cannot be given to civil servants.

Thus our attempts to improve staff suggestions schemes within the Civil Service may have gone as far as is practicable. Further efforts to encourage better ideas and more economical working may have to extend outside the concepts of such schemes along the lines of job satisfaction schemes and quality circles. Any ideas that readers may have for the improvement of staff suggestions schemes would, however, be welcome.

**Work Simplification in Office, O&M Bulletin,* December 1947, pp 40 – 42.

Information and the Challenge of Information Technology

B T Campbell

Brian Campbell is a lecturer at the Civil Service College (on loan from his parent department, HM Customs & Excise). He is involved in the presentation of information technology seminars which the Civil Service College is holding in various parts of the country as part of its contribution to Information Technology Year.

This year, 1982, has been designated Information Technology Year ('IT '82') – a fact to which reference has already been made in previous articles in this journal.*

One of the aims of IT '82 is to make organisations more aware of what information technology has to offer and thus enable them to take advantage of the new services and equipment. There is however a possible danger that the promotion of information technology will lead to the emphasis being placed primarily on the 'technology' aspect (and on the ways in which people adapt to that technology) at the expense of the 'information' aspect which may well continue – as it often seems to be at present – to be taken for granted.

Information technology has to face a number of challenges not least of which is to make organisations think more about what information is and how they use it. The purpose of this article is to look at information largely in isolation from the technology.

Information as a resource

The idea of information as 'raw material' is perhaps not a bad starting point in that it is useful to think of information as a *resource* in the way that capital, labour, machinery etc. are resources. It is useful to think of it in this way because resources are finite, have to be looked after, cost money to replace etc. and will generally deteriorate in value if not taken care of properly. As far as the Civil Service is concerned it is surely our most important resource.

**Systems Training in the Civil Service College,* P Hearson and *The Use of Viewdata in the Public Sector,* Sir John Barran, both in *Management in Government,* February 1982, pp 34 – 50.

©Crown Copyright 1982
Management in Government 1982 (3) 188 – 195

Information forms

Information, however, is not a simple monolithic concept. For example, information can be categorised according to the form it exists in. These forms are:

- Data (verifiable facts, eg date of birth, payroll number, invoice prices, quantities etc.)
- Text (letters, reports, memos)
- Image (graphs, charts, diagrams, plans)
- Voice (telephone conversations, meetings)

These are the traditional forms in which we handle information. Each has its strengths and its weaknesses – its own set of characteristics.

Information in the form of *data* is highly concentrated, which makes it easy to store and transmit from one place to another (it takes up very little space); it is also highly formalised in that data held about, say, a member of staff will usually cover the same range of items as every other member of staff such as name, address, employee number etc. This makes it relatively easy to retrieve information and easy to check for completeness because whatever item you wish to retrieve, eg name, will be in the same position in each piece of data. Data also has its weaknesses however. Because of its condensed nature it loses some of its context: this makes it vulnerable to error in that a single letter or digit copied down or transmitted wrongly may completely invalidate a piece of data – the removal of the information from its context does away with an element of self-checking which might otherwise be possible.

Text exhibits a different set of strengths and weaknesses. It is much more resilient than data – the large amount of what strictly speaking is redundant information in a piece of text endows it with a great deal of robustness so that the meaning can shine through in spite of mis-spellings, numbers transposed, smudges on the paper, bad grammar etc. Although errors of commission can be more easily detected, errors of omission may slip through; this is because text does not have a fixed length and therefore it is difficult to be certain whether the text is complete. Similarly, because text does not have a highly structured and formalised layout it is difficult to index and retrieve from satisfactorily.

Image and *voice* also have their own advantages and disadvantages. Information which is difficult to comprehend if presented as data or text can often be made clear by using image – for example, a graph or bar chart can bring out movements and trends in a set of figures which would not be apparent if presented in another form. Perhaps the greatest advantage of voice is in its combination of resilience (meaning is conveyed by a combination of words, tone and gesture – sentences are frequently left incomplete) and subtley (meaning is often conveyed which is at variance with the words actually spoken).

We do not of course handle information in only one form at a time: mixtures of forms are the rule rather than the exception. A report may be mainly in text but might well contain data (tables of figures) and image (charts and graphs); the report itself might then be the subject of a telephone conversation or a meeting in which case information in the form of voice would then be created (unlike the other forms, voice is rarely held in any permanent fashion – it is not stored).

What we do to information

It was mentioned above that a permanent record (no pun intended) was rarely made of voice, but it could be, and the other forms of information are usually more permanent – ie one of the things we do to information is *store* it for future reference. Some stored information has to be changed, eg someone's grade or marital status changes: therefore we may *process* information. Before we can store and process information it has to be *input* in some way, and when we wish to retrieve the information it has to be *output*. There is also a *communication* function by which we send information from one place to another.

The information grid

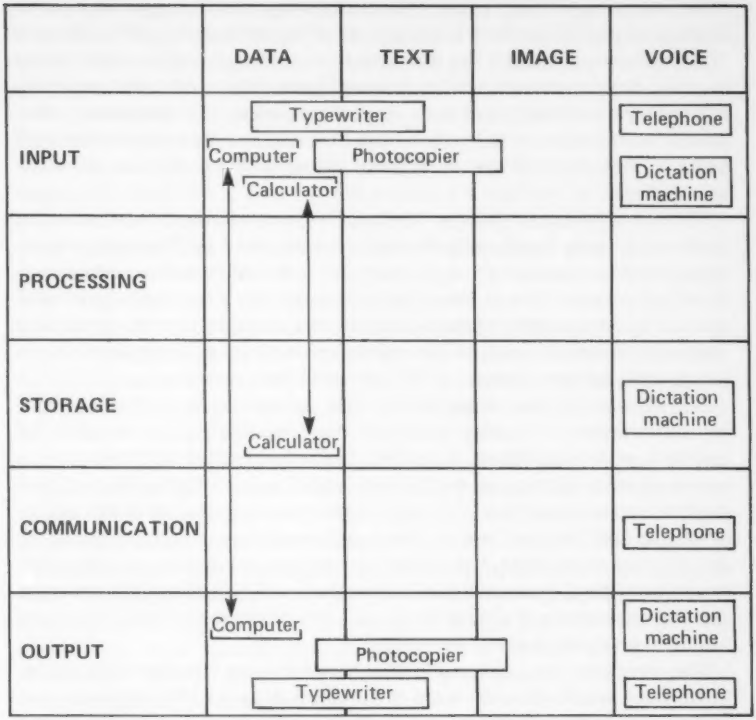
Having looked at *forms* and *functions* we can now set one against the other to create what is known as the 'information grid' in which forms are related to functions.

The importance of this grid can be seen if we step aside for a moment from looking at information and consider technology. It is obvious that we as human beings can handle information in all its forms and perform all the necessary functions: if we were to map the human office worker on to the grid he or she would be awarded a tick in every box. If however we take the technology we have in the office at present (ie the tools, the pieces of equipment) which assist us in our handling of information, and map them on to the grid we get a very incomplete picture:

For example typewriters deal with text and data but can only perform input and output functions on them; photocopiers can handle data, text and image but once again can only input and output. Even the most advanced piece of technology we have access to in the office, ie the computer, although it can perform the full range of functions, normally only carries out these functions on one form of information—data.

The use of technology in the office is as we all know increasing. Already there are word-processors (which are really small computers which specialise in handling text) which can store, process and sometimes communicate text as well as input and output it. There are intelligent copiers which can store, process and communicate image. The picture is still, however, incomplete and the challenge faced by information

technology is to develop what is to all intents and purposes a single device which is capable of performing all the functions on all the information forms.



'Hard' and 'soft' information

Another way of looking at information is to position it on a scale varying from 'hard' at one end to 'soft' at the other. 'Hard' information is factual, verifiable information (date of birth etc.) usually in the form of data; 'soft' information consists of opinions, value judgements, predictions etc. and is usually in the form of text or voice. perhaps a piece of information's position on the scale is determined by the amount of confidence there is in it. As with 'form' there is no question of information at one point of the scale being better or worse than information on any other point: we use information from all points of the scale in our day-to-day work, and information from one point of the scale is used to support information from another point.

Once again it can be seen that computer technology is only handling some of the information which is around in that it deals mainly with hard information and has given us very little help in handling the softer forms of information – and this in spite of some estimates which suggest that in the average organisation there is more 'soft' information around than there is 'hard'. There is the possibility then that for some organisations technology is only helping them handle a small percentage of their available information, and this might even apply to organisations (including some government departments) which have invested heavily in computers and believe that technology is already helping them handle *all* their information.

There is a particular danger inherent in the tendency of computers to deal mainly with 'hard', data-like forms of information. This is that there might be a temptation to take a piece of 'soft' information and make it 'hard' – because if this is done the computer can then easily store and process it. An example of this would be the creation by a business of a 'reliability index' for each of its customers – perhaps on a scale of one to ten, to indicate how solvent, how trustworthy etc. they were.

The danger of this approach is that something as value-laden as 'trustworthiness' – a quality on which there are likely to be a variety of opinions and where these opinions themselves might fluctuate over a period of time – is being given the same status as a verifiable piece of data such as 'customer number'. It is surely better that judgements of this nature remain in 'soft' form and are used to supplement the hard data when some decision has to be made, rather than embodying a coded value judgement in a piece of data, because if this is done there will be a temptation to use it like any other piece of data and program the computer to make decisions based on an opinion made into a fact.

The comment was made earlier that the challenge faced by information technology was to develop ways of handling all forms of information and performing all the functions upon them. This challenge could be re-stated by saying that what information technology has to do—is to develop effective ways of handling *all* information (including the 'softer' forms) without distorting them in any way – is to handle them as effectively as it already handles 'hard' information. In other words information technology has to develop ways of handling information *in its most natural form* whatever that may be, eg if it is text then it should be kept as text, if voice then it is voice that should be stored, communicated and output. The medium should not distort.

Current office practices and existing office technology

The above point however is not without its built-in contradiction, which is that the more help technology gives in dealing with 'soft' information the

more 'hard' that information may become, and that introducing technology where none existed before may mean an inevitable degree of distortion.

For example, if creating a permanent record of all telephone conversations became normal practice (because this was thought to have certain advantages) would this change the way in which we used the telephone? Would we only transmit 'hard' information and shy away from 'soft' information for fear that the storing of our conversations would make the 'soft' information 'hard'?

This raises what is perhaps the most important (and surely the most neglected) issue of all, which is the extent to which our current working practices have themselves been shaped by existing technology (which in many cases has been a complete absence of technology) and the extent to which they will change (or resist changing) in response to changes in technology. Not only working practices will come under scrutiny as technology changes but also such fundamental things as the number of levels in the management hierarchy, and the shape of the organisational pyramid (span of command) may have to be looked at afresh. It may be that even these basic structures are simply functions of handling information in a particular way, and if the ways in which we handle information change then perhaps these structures will also have to change.

There is a danger therefore that information technology will aim at the wrong target or at least a moving target. If office practices have been shaped by previous technologies then is it sensible to spend time analysing tasks we perform in the office at the moment and try to apply technology to them? Should we not be spending time in taking a fundamental look at what we do in offices and why we do it? Office tasks are not ends in themselves – they should contribute to some overall organisational objectives. There is a danger that we will become sidetracked by the tasks and lose sight of these objectives.

This does not mean that we must rush around changing office procedures and organisational structures as soon as we introduce a piece of new technology into the office: it will almost certainly take time for new procedures and structures to evolve, and it would be foolish to anticipate them. What is needed is an awareness that existing patterns are not sacrosanct and have themselves evolved over the years and that we must expect them to evolve further.

In some cases, of course, we will have become so accustomed to some particular procedure or behaviour pattern that we will (perhaps perfectly reasonably) resist any change to it even when the factors which helped to shape it have long disappeared. An example of this would be the 'QWERTY' layout of the keys on the convential typewriter. This layout is said to have been devised with the objective of slowing down the operator,

because unless this was done the bars holding the letters would jam together if they were pressed too rapidly in sequence. On many modern non-mechanical typewriters this constraint is no longer relevant and it is possible to devise keyboard layouts which are designed to be efficient rather than inefficient. However, there remains the problem of getting people to adapt to a new layout when they have become so used to the old. Attempts to market machines with a more efficient keyboard layout have not so far met with much success.

Another familiar procedure which may have to be rethought is that of 'raising a file' on a person or subject. The conventional file is both a 'logical' and a 'physical' file, in that information relating to one subject (logical) is held together in an easy-to-handle folder or box (physical). Already in computer systems it is common to think of logical and physical files as being quite distinct. For example, the physical file might be held on a magnetic disc and contain details on all the personnel of an organisation, but this physical file might be viewed by the computer programs which access it as a set of overlapping logical files, in that one program may only be interested in personnel of a particular grade, in which case the file will appear to it to contain only details of people of that grade and it will remain quite unaware of what other information the (physical) file contains. Another program may see (logically) the file consisting of only people who have a particular educational qualification, and so on. Perhaps in the future files will come into existence at the touch of a button when information on a particular subject is required rather than at present being raised on the assumption that what seems a logical grouping of information at that time will always remain so.

The extent to which we will continue to use paper as a carrier of information is something that will have to be (and already is being) reassessed – terms such as the 'electronic office' and even the 'paperless office' are already quite familiar. Will we ever get used to reading text on a visual display screen or will we continue to insist on having a paper copy of every document we use? Bearing in mind that visual display screens were originally designed to carry image rather than text, could it be that the civil servant of the future will become as proficient in the use of image as his present day counterpart is with text and voice?

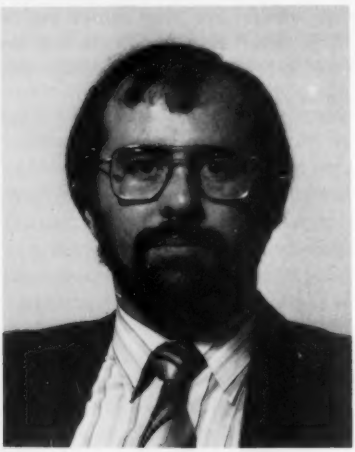
The challenge to the more senior civil servant

Up to the present time even the most advanced pieces of information technology (computers, word processors etc.) have tended to make their impact on relatively routine clerical and secretarial work. Those aspects of Civil Service work which are managerial and administrative have been affected to a much lesser extent. If information technology succeeds in its aim of applying technology to softer forms of information – to text and

voice—then the pattern will change and civil servants will find technology available to help them in a much greater area of their work than has previously been the case. Those civil servants whose work is entirely managerial or administrative will start to come into direct contact with technology for the first time; up to now they could – if they wished – ignore it completely as being something which only impinged directly on the work of their staff. The more senior the civil servant the more dramatic this change is likely to be, as various surveys which have been carried out on the 'how do senior personnel spend their time?' theme indicate that the more senior the person is the more likely he or she will be handling – and making decisions based on – 'soft' information.

Furnishing Economies — Bridging the Gap between Concept and Implementation

E B Grieve



Errol Grieve is a Senior Executive Officer working with the Management Services Division in the Ministry of Defence.

Britain's armed forces are, as everyone knows, all-volunteer. This makes them, head for head, more effective than conscripts but also requires the Ministry of Defence (MOD) to provide, especially overseas, a substantial infrastructure of schools, hospitals and housing. And in the houses, furniture. The provision of furniture for servicemen's married quarters (MQs) is regarded as a valuable condition of service (albeit the tenant pays a charge for it) and saves the Ministry the cost of moving the serviceman's own furniture around with him, but it involves substantial resources of money (£15 millions for furnishings alone) and manpower (2,400 staff).

A ministerially-led study team investigating the possibility of economies in civilian manpower in the supply management of the Services naturally identified a change of policy in this area as a potentially valuable source of savings, but were unable to say with confidence where the balance of financial advantage lay. We in the Management Services Division of the

©Crown Copyright 1982
Management in Government 1982 (3) 196 – 201

Ministry of Defence were therefore asked to verify the financial consequences of removing furnishings from servicemen's married quarters.

It was clear from the outset, in view of the conditions of service aspects, that we would be working in a potentially-controversial area. It was also clear that we would be working in very well-tilled, if perhaps infertile, soil. Determination of the 'proper' levels of furnishings had exercised the minds of many and on numerous occasions over the previous 20-odd years, and the results of even the major studies in this area had not been particularly encouraging. Of the 250 or so separate inventory items supplied to MQs, (which range from dining and living room furniture to beds, blankets, cutlery and crockery) agreement had been reached to delete comparatively few. Moreover, the items deleted from the inventory had been compensated for by a number of improvements to MQ furnishing scales to reflect standards of living in the private sector.

That reducing the scale of furnishings in MQs had proved a difficult nut to crack was hardly surprising. The provision of furnished accommodation, for rent, is regarded by the Services as a powerful influence on both recruitment and retention, particularly for younger married servicemen. Quite naturally, therefore, there was a marked reluctance to seek to erode a desirable condition of service particularly if, as some had averred previously, no overwhelming financial advantage would accrue. The Services would not welcome disincentives to MQ occupancy for other reasons too. To encourage the family concept in Service life, it clearly helps if servicemen are not dispersed too far away from their units. MQs are, by design, well placed to foster this kind of community spirit. It is also advantageous operationally if servicemen live in close proximity to their units.

Nevertheless, there was mounting evidence of a change in servicemen's requirements for accommodation; increasingly servicemen were purchasing their own property in preference to living in MQs. In the period between 1970 and 1980, for example, the proportion of married servicemen owning their own house rose from 22 per cent to 36 per cent. Changes in the economic climate, such as increased house prices and high interest rates, appear not to have inhibited the growth in home ownership. Among those remaining in MQs there was a trend towards purchasing their own furniture and household effects, and storing 'official' furnishings. Although the trends were detectable, they were not consistent between rank or indeed Services and thus (dare I say it?) a blanket policy to 'de-furnish' MQs would not meet with universal approval. It was against this uncertain background that we approached our task.

Scale of the problem

To put a perspective on the problem to be grappled with, the following statistics, all of which relate to 1980, are instructive:

Number of UK servicemen	– 316,000
Number married	– 164,000
Number of MQs in UK	– 91,000
Number of furnished MQs overseas	– 42,000
Expenditure on MQ furnishings (excluding carpets and curtains)	– £15 million pa
Average value of MQ contents	– £3,000
Estimated overheads (mainly manpower)	– £14 million pa
Dedicated manpower	– 2,400

The dimension not revealed by these statistics is that of the frequency of Service postings. About 29 per cent of all married servicemen are serving abroad at any one time, including 46 per cent of married Army personnel, mainly in Germany. To meet operational requirements, actual tours of duty vary considerably, from less than 12 months in extreme cases to more than four years in others. The average period spent in MQs is about 18 months. This aspect of Service life had of course particular significance for our study: if 'official' furnishings were to be withdrawn from MQs, what costs would be involved by the need to transport or store privately-owned furnishings, what would the problems be, and how could these be overcome?

Scope of the study

Our terms of reference were perhaps unusual in that we were not required to make recommendations but simply to devise possible courses of action and to estimate the financial consequence of each. Clearly the options devised had to be workable and it was in this area that we encountered serious practical difficulties.

It had been suggested that MQs could be de-furnished progessively over a ten-year programme and that there would be a linear relationship between this activity and projected savings. In all, savings approaching £200m were identified stemming from economies in furniture procurement, storage and manpower. Most people have a conception of the effort required to empty a house of furniture, but our problem was to envisage this happening in excess of 100,000 times and in a climate of severe manpower constraints. Suffice it to say that we foresaw grave difficulties in implementing a de-furnishing policy on the lines suggested previously. As an example, where on earth was the displaced furniture to be stored prior to disposal (it is customary for surplus MOD property to be auctioned publicly)? and could the market absorb disposals on this vast scale? In the

absence of satisfactory answers to these essential questions we could only conclude that, without an alternative strategy, de-furnishing on a very substantial scale was impracticable within a realistic timescale. Moreover the social consequences of withdrawing an official service of long standing and requiring the people benefiting from the service to supply it themselves, demanded more than passing thought. In civilian life it would be akin to requiring hospital patients to supply their own beds on admission.

In these circumstances we responded to the problem by changing its definition. Until then people had concentrated on strategies for removing and then disposing of the furniture through normal channels; we wondered why move it at all? We subsequently devised a scheme whereby the majority of MQ occupants would be encouraged to purchase the contents of their home at incentive prices. We saw no reason in principle not to make purchase attractive because the likely proceeds from conventional disposals would, to say the least, be eroded significantly by transport, storage and administrative overheads (not to speak of the effect on the market of selling enough furniture for more than half the annual growth in new households in UK). Although it was impossible to predict the likely take-up, our judgement was that servicemen would buy up sufficient furnishings to make our remaining logistic and disposal problems manageable. Moreover the financial properties could be more readily protected by such a scheme. No effort would be spared to make the transition from rental of furniture to outright purchase as painless as possible for servicemen. The other part of the bargain would be that 'privatised' furnishings would be transported or stored by commercial companies but at public expense. Here again the spectre of practicability began to haunt us.

While the indications were that commerce would be capable of handling the potential transportation requirement within Europe for both the Navy and the RAF, the Army posed a quite different type of problem. Within the Army exists the phenomenon of the unit move where an entire regiment, battalion or battery is uprooted from one spot on the deployment map and is planted at another to replace an outgoing unit which may or may not in turn be replacing the first unit. Such moves are necessary for operational and training reasons, and these considerations dictate that the number of personnel who move in any one year is substantial. Given that a battalion consists of about 650 men and that a little over 50 per cent of Army personnel are married, the typical unit move, which takes place in a limited period, could therefore involve 700 families. If 700 households-worth of furniture were to be shuttled between the UK and Germany – and a typical monthly programme could involve more than one unit move – not only would tremendous organisational skill be required but a demand for a large

number of pantechnicons and removals teams to handle it would also be created. Our further enquiries elicited that spare capacity of the magnitude envisaged simply did not exist, though it might well be created in response to a policy decision by MOD to de-furnish MQs in Europe.

The financial implications of de-furnishing MQs in Europe were significant by any standard. We estimated that through the large (2,400) manpower reductions, reduced procurement of furnishings and other measures possible, MOD could secure gross savings of nearly £260m over ten years. The net financial advantage was very much more marginal, however, once increased expenditure on subsistence, removals and storage was taken into account. Moreover, our estimates were required to exclude any consideration of compensation to servicemen for the withdrawal of an important condition of service. In summary therefore, we concluded that de-furnishing Service MQs in Europe was feasible through a 'right to buy' scheme for servicemen coupled with a response from the private sector to the substantial increase in the Service requirements for transportation. Undeniably, however, MOD would need to take a calculated risk in implementing such a policy; the upheaval would be significant and the financial benefit only marginal but might possibly be justified on the basis of reducing the size and scope of the public sector.

The other options

In all we developed and costed six options, ranging from the complete de-furnishing option described in the preceding paragraphs, to the removal of only small, easily portable, items from MQ inventories. The main variables involved in the development of the options were geography, Service, rank and scale of furnishings to be removed, but a feature common to all was the 'right to buy' concept. On our estimates some of the options, such as de-furnishing UK MQs for officers and some NCOs, were not cost-effective, others only marginally so, thus lending some support to the belief – and it was no more than that – that de-furnishing was unlikely to be really advantageous to MOD. However, there were elements of uncertainty which could have tipped the balance either way.

That said, one option stood out from the others, that of removing minor items of cutlery, crockery, glassware etc. from MQ inventories. Not only was the option demonstrably the most cost-effective, but it had the virtues of enjoying widespread support among servicemen (which meant avoidance of conditions of service difficulties), of being easy to implement and itself offering significant manpower savings estimated initially at over 700 staff.

Implementation

Considerable staff work was required before the numerous interested parties in MOD could agree an option for implementation. This was entirely reasonable given the nature of the changes involved. The then Civil Service Department had also to be consulted. Finally the option involving the deletion of minor items from MQ inventories was agreed in principle. Subsequent refinement of the option resulted in the deletion of about 60 inventory items. Those items for which there was a foreseen alternative use, eg in messes and hospitals will be withdrawn progressively over the next three years or so. For the remainder, these will be offered for sale to servicemen, starting 1 September this year. Furniture element rentals will be reduced proportionately. When the scheme has been implemented, savings exceeding £2m annually are anticipated and this is most welcome in the stringent financial climate.

If asked why our study successfully led the way to change when earlier attempts seemed to have foundered, the detached observer might well argue that the atmosphere was right. Indeed there is much in the point that this was an idea whose time had come. On the one hand, the changing preferences of servicemen coupled with the easier climate for recruiting made risks on the conditions of service front easier to take; on the other, pressure to save money and Civil Service manpower made it imperative to do so. But the management services contribution was, we would claim, nonetheless crucial, since we provided two essential elements for the debate: first (and for the first time) an objective assessment of the complex flows of resources involved in policy changes on which management could safely base decisions; and secondly, through the 'right to buy' proposal, a practical means of implementing any changes in the kind of timescale sought by management.

For those interested, our report (ManS(Org) Report No 442) is now publicly available as an 'Open Government' document (Reference 82/14) in the MOD Library, Reference and Parliamentary Section, Old War Office Building, Whitehall, London SW1.

Civil Service College Courses and Seminars

The Civil Service College runs a wide range of courses and seminars, many of which are open to both civil servants and people outside government. A small selection of the courses due to be held between November 1982 and January 1983 is shown below together with a contact point for further information. The College's complete programme for the 1982-83 academic year can be obtained from Mrs Diana Beach — Telephone: Ascot (0990) 23444 ext 307.

Course Title	*Dates*
What the administrator needs to know to make the best use of management science	15–19 November 1982
Project appraisal in practice	22–24 November 1982
A scientific approach to problem solving	23–26 November 1982
Sampling and measuring techniques	13–17 December 1982

Contact Mrs Irene Somerville, Civil Service College, Sunningdale Park, Ascot, Berks SL5 0QE
Telephone: Ascot (0990) 23444 ext 278

The analysis of private sector decisions	3–5 November 1982
The economics of business	8–12 November 1982
Government Industry Study Group – relationships in the 80s	6–10 December 1982

Contact Ms Angela Dinham, Civil Service College, 11 Belgrave Road, London SW1V 1RB
Telephone: 01-834 6644 Ext 264

Managing technical change	13–17 December 1982
Management training skills for trainers	29 November – 3 December 1982
Staff management and organisation	15–26 November 1982 17–28 January 1982
Understanding trade unions	24–28 January 1983

Contact Mrs Andrea Stancliffe, Civil Service College, Sunningdale Park, Ascot, Berks SL5 0QE
Telephone: Ascot (0990) 23444 Ext 341

Principles of taxation and social security	1–5 November 1982
The European Community: an introduction	1–5 November 1982
Relations with the public	22–26 November 1982
Efficiency in government	29 November – 3 December 1982

Contact Mrs Daphne Faulkner, Civil Service College, 11 Belgrave Road, London SW1V 1RB
Telephone 01-834 6644 Ext 540

Computers and the user	29 November – 3 December 1982 3–7 January 1983
The practice of organisation and methods	15–19 November 1982 17–21 January 1983
Data analysis workshop	22–26 November 1982
Developing office technology systems	14–16 December 1982

Contact Mr David Williams, Civil Service College, 11 Belgrave Road, London SW1V 1RB
Telephone: 01-834 6644 Ext 384

New Publications on the Civil Service

This is a list of the documents recently issued by the Management and Personnel Office and the Treasury on management in the Civil Service. These items may be examined in the *Central Management Library, Management and Personnel Office, Old Admiralty Building, Whitehall, London SW1A 2AZ.* Copies may be ordered from the same address, unless otherwise stated. HMSO publications should be ordered from HMSO, PO Box 569, London SE1 9NH, from Government Bookshops, or through any bookseller.

Civil service pensions explained 2nd ed.
HMSO; 1982; 54 pages; £3.75
ISBN 0 11 630449 9

Government response to the Sixth Report of the Joint Committee on Statutory Instruments
HMSO; 1982; £1.25
ISBN 010 186000 5
Cmnd. 8600

Index to circulars and notices current on 31 March 1982
1982; 90 pages; gratis

Inquiry into civil service pay
Chairman: Sir J Megaw

Vol 1: The Inquiry's findings
HMSO; 139 pages; £7.05
ISBN 0 10 185900 7
Cmnd. 8590

Vol 2: Research studies
HMSO; 192 pages; £9.35
ISBN 0 10 185901 5
Cmnd. 8590–I

Principal Civil Service Pension Scheme 1974: rules 3rd ed.
HMSO; 1982; 154 pages; £5.95
ISBN 0 11 630448 0

Review Body on Top Salaries Report no. 18: Fifth Report on Top salaries
HMSO; 1982; 96 pages; £7.25
ISBN 0 10 185520 6
Cmnd. 8552

Science and government: government observations on the first report of the House of Lords Select Committee on Science and Technology (session 1981–82)
HMSO; 10 pages; £1.65
ISBN 0 10 185910 4
Cmnd. 8591

Central Computer and Telecommunications Agency

CCTA News
Monthly; nos. 13–16; gratis
ISBN 0260–857X

CCTA procedures review for the development and procurement of computer based systems: a review and comments on the recommendations
Treasury; 1982; 36 pages; £2
ISBN 0 7115 0043 6

List of computers in central government
1982; 38 pages; gratis
Issue no. 1
ISSN 0263–4686

Civil Service College

European and international relations
(courses)
1982; 22 pages; gratis

Variation in the use of in-patient services by place of residence
by J C Beresford
1982; 27 pages; gratis
CSC Working Paper No. 31

Civil Service Commission

Annual Report 1981
1982; 56 pages; gratis

Printed in England for Her Majesty's Stationery Office by Adams Bros. & Shardlow Ltd., Leicester
Dd 019981 C33 8/82

Management in Government

Contributions and correspondence are welcomed; they should be addressed to the editor at the Management and Personnel Office, Old Admiralty Building, Whitehall, London SW1A 2AZ. Manuscripts should preferably be clearly typed on single sides of A4 paper with double spacing and wide margins. Photographs should be in black and white with a matt finish and free from creases and marks. Civil Service contributors should first obtain the approval of their departments for publication.

Abstracts of technical articles and reports by civil servants should include:

1 Title or subject
2 Author
3 Synopsis (not more than 140 words)
4 Address from which copies of article or report can be obtained.

Enquiries about subscriptions, sales and copyright should be addressed to Her Majesty's Stationery Office, PO Box 569, London SE1 9NH or any of the bookshops listed overleaf.

BACKFILE VOLUMES: Complete volumes of Management Services in Government are available on microfilm from University Microfilms International, 300 North Zaeb Road, Ann Arbor, Michigan 48106, USA.

HER MAJESTY'S STATIONERY OFFICE
PO Box 569, London SE1 9NH
Government Bookshops
49 High Holborn, London WC1V 6HB
13a Castle Street, Edinburgh EH2 3AR
41 The Hayes, Cardiff CF1 1JW
Brazennose Street, Manchester M60 8AS
Southey House, Wine Street, Bristol BS1 2BQ
258 Broad Street, Birmingham B1 2HE
80 Chichester Street, Belfast BT1 4JY
Government Publications are also available through booksellers

£1.80 net
(Annual subscription including postage £7.72)

ISBN 0 11 726745 7
ISSN 0263-4678

UNIVERSITY OF MINNESOTA